DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[Docket No. FWS–R4–ES–2021–0007; FF09E21000 FXES11110900000 212]

RIN 1018–BE80

Endangered and Threatened Wildlife and Plants; 12-Month Petition Finding and Threatened Species Status with Section 4(d) Rule for Suwannee Alligator Snapping Turtle

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), announce a 12-month finding on a petition to list the Suwannee alligator snapping turtle (*Macrochelys suwanniensis*), a freshwater turtle species from the Suwannee River basin in Georgia and Florida, as a threatened species. After a review of the best available scientific and commercial information, we find that listing the species is warranted. Accordingly, we propose to list the Suwannee alligator snapping turtle as a threatened species with a rule issued under section 4(d) of the Act ("4(d) rule"). If we finalize this rule as proposed, it would add the species to the List of Endangered and Threatened Wildlife and extend the Act's protections to the species.

DATES: We will accept comments received or postmarked on or before [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]. Comments submitted electronically using the Federal eRulemaking Portal (see **ADDRESSES**, below) must be received by 11:59 p.m. Eastern Time on the closing date. We must receive requests for public hearings, in writing, at the address shown in **FOR FURTHER INFORMATION CONTACT** by [INSERT DATE 45 DAYS AFTER

DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may submit comments by one of the following methods:

(1) *Electronically*: Go to the Federal eRulemaking Portal: *http://www.regulations.gov*. In the Search box, enter FWS–R4–ES–2021–0007, which is the docket number for this rulemaking. Then, click on the Search button. On the resulting page, in the Search panel on the left side of the screen, under the Document Type heading, check the Proposed Rule box to locate this document. You may submit a comment by clicking on "Comment Now!"

(2) *By hard copy*: Submit by U.S. mail: Public Comments Processing, Attn: FWS–R4–ES–2021–0007, U.S. Fish and Wildlife Service, MS: PRB/3W, 5275 Leesburg Pike, Falls Church, VA 22041–3803.

We request that you send comments only by the methods described above. We will post all comments on *http://www.regulations.gov*. This generally means that we will post any personal information you provide us (see *Public Comments*, below, for more information).

FOR FURTHER INFORMATION CONTACT: Jay Herrington, Field Supervisor, Northeast Florida Ecological Services Field Office; Jay_Herrington@fws.gov, 904–731–3191 or Panama City Ecological Services Field Office, 1601 Balboa Avenue, Panama City, FL 32405. Persons who use a telecommunications device for the deaf (TDD) may call the Federal Relay Service at 800–877–8339.

SUPPLEMENTARY INFORMATION:

Executive Summary

Why we need to publish a rule. Under the Act, if we determine that a species is an endangered or threatened species throughout all or a significant portion of its range, we are required to promptly publish a proposal in the *Federal Register* and make a determination on our proposal within 1 year. To the maximum extent prudent and

determinable, we must designate critical habitat for any species that we determine to be an endangered or threatened species under the Act. Listing a species as an endangered or threatened species and designating critical habitat can only be completed by issuing a rule.

What this document does. This document proposes to list the Suwannee alligator snapping turtle (*Macrochelys suwanniensis*) as a threatened species and to provide measures under section 4(d) of the Act that are tailored to our current understanding of the conservation needs of the Suwannee alligator snapping turtle (a "4(d) rule").

The basis for our action. Under the Act, we may determine that a species is an endangered or threatened species because of any of five factors: (A) The present or threatened destruction, modification, or curtailment of its habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; or (E) other natural or manmade factors affecting its continued existence. We have determined that the primary threats acting on the Suwannee alligator snapping turtle include illegal harvest and collection (Factor B), nest predation (Factor C), and hook ingestion and entanglement due to bycatch associated with freshwater fishing (Factor E). Existing regulatory mechanisms (Factor D) are not adequate to address these threats. Disease (Factor C) and climate change (Factor E) might negatively influence the species, but the impacts of these threats on the species are uncertain based on current information. Section 4(a)(3) of the Act requires the Secretary of the Interior (Secretary) to designate critical habitat concurrent with listing, to the maximum extent prudent and determinable.

Peer Review

We prepared a species status assessment report (SSA report) for the Suwannee alligator snapping turtle. The SSA report represents the compilation and assessment of the best scientific and commercial information available concerning the status of the

species, including the past, present, and future factors influencing the viability of the species (Service 2020, entire). In accordance with our joint policy on peer review published in the *Federal Register* on July 1, 1994 (59 FR 34270), and our August 22, 2016, memorandum updating and clarifying the role of peer review of listing actions under the Act, we sought the expert opinions of four appropriate specialists regarding the Suwannee alligator snapping turtle, and received one response which informed this proposed rule. The purpose of peer review is to ensure that our listing determinations, critical habitat designations, and 4(d) rules are based on scientifically sound data, assumptions, and analyses. The peer reviewers have expertise in population modeling and the biology, habitat, and threats to the species. All comments received from the peer reviewers are publicly available and posted on *http://www.regulations.gov*.

Information Requested

Public Comments

We intend that any final action resulting from this proposed rule will be based on the best scientific and commercial data available and be as accurate and as effective as possible. Therefore, we request comments or information from other concerned governmental agencies, Native American Tribes, the scientific community, industry, or any other interested parties concerning this proposed rule.

We particularly seek comments concerning:

(1) The species' biology, range, and population trends, including:

(a) Biological or ecological requirements of the species, including habitat requirements for feeding, breeding, and sheltering;

(b) Historical and current range including distribution patterns;

(c) Relationship between densities and habitat types;

(d) Population impacts and extent of hook ingestion and entanglement associated with recreational fishing;

(e) Population impacts and extent of poaching;

(f) Recruitment and population impacts associated with nest and hatchling predation;

(g) Historical and current population levels, and current and projected trends; and

(h) Past and ongoing conservation measures for the species, its habitat, or both.

(2) The spatial distribution and extent of real and perceived threats to this species. Notably, we seek any information on areas within the species' range where these threats may overlap and potentially act synergistically as well as where there may be a complete absence of threats.

(3) Biological, commercial trade (including pet trade and breeding for personal collections), or other relevant data concerning any threats (or lack thereof) to this species and existing regulations that may be addressing those threats.

(4) Additional information concerning the historical and current status, range, distribution, and population size of the species, including the locations of any additional populations of the species.

(5) Information, especially from the commercial and recreational fishing communities, about the design of a turtle escape or exclusion device and modified trot line techniques that would effectively eliminate or significantly reduce bycatch of alligator snapping turtles from recreational fishing.

(6) Whether the measures outlined in the proposed section 4(d) rule are necessary and advisable for the conservation and management of the Suwannee alligator snapping turtle. We particularly seek comments concerning:

(a) Whether we should include a provision related to excepting incidental take resulting from legal recreational or commercial fishing activities for other targeted species, in compliance with State regulations. In addition, if we include such a provision,

should we also include a requirement to report to the Service injured or dead turtles resulting from such legal fishing activities.

(b) Whether the provision related to excepting incidental take associated with Federal and State captive-breeding programs to support conservation efforts for wild populations (i.e., head-starting) that use permitted brood stock and approved turtle husbandry practices in accordance with State regulations and U.S. Fish and Wildlife Service policy should be revised or clarified to remove or add information including additional restrictions or deferments, or additional best management practices.

(c) Whether the provisions related to excepting incidental take resulting from construction, operation, and maintenance activities; pesticide and herbicide application; and silviculture practices and forestry activities that follow best management practices should be revised or clarified to remove or add information including spatial or temporal restrictions or deferments, or additional best management practices.

(d) Whether there are additional provisions the Service may wish to consider for the final section 4(d) rule in order to conserve, recover, and manage the Suwannee alligator snapping turtle, such as turtle excluder devices, limitations on road construction and other infrastructure or construction activities, riparian management activities, or wetland management activities.

(7) The reasons why we should or should not designate habitat as "critical habitat" under section 4 of the Act (16 U.S.C. 1531 *et seq*.), including information to inform the following factors that the regulations identify as reasons why designation of critical habitat may be not prudent:

(a) The species is threatened by taking or other human activity and identification of critical habitat can be expected to increase the degree of such threat to the species;

(b) The present or threatened destruction, modification, or curtailment of a species' habitat or range is not a threat to the species, or threats to the species' habitat

stem solely from causes that cannot be addressed through management actions resulting from consultations under section 7(a)(2) of the Act;

(c) Areas within the jurisdiction of the United States provide no more than negligible conservation value, if any, for a species occurring primarily outside the jurisdiction of the United States; or

(d) No areas meet the definition of critical habitat.

(8) Specific information on the possible risks or benefits of designating critical habitat, including risks associated with publication of maps designating any area on which this species may be located, now or in the future, as critical habitat. We specifically request information on the threats of taking or other human activity on the Suwannee alligator snapping turtle and its habitat, and the extent to which designation might increase those threats, as well as the possible benefits of critical habitat designation to the species.

Please include sufficient information with your submission (such as scientific journal articles or other publications) to allow us to verify any scientific or commercial information you include.

Please note that submissions merely stating support for, or opposition to, the actions under consideration without providing supporting information, although noted, will not be considered in making a determination, as section 4(b)(1)(A) of the Act directs that determinations as to whether any species is an endangered or a threatened species must be made "solely on the basis of the best scientific and commercial data available."

You may submit your comments and materials concerning this proposed rule by one of the methods listed in **ADDRESSES**. We request that you send comments only by the methods described in **ADDRESSES**.

If you submit information via *http://www.regulations.gov*, your entire submission—including any personal identifying information—will be posted on the

website. If your submission is made via a hardcopy that includes personal identifying information, you may request at the top of your document that we withhold this information from public review. However, we cannot guarantee that we will be able to do so. We will post all hardcopy submissions on *http://www.regulations.gov*.

Comments and materials we receive, as well as supporting documentation we used in preparing this proposed rule, will be available for public inspection on *http://www.regulations.gov*.

Because we will consider all comments and information received during the comment period, our final determinations may differ from this proposal. Based on the new information we receive (and any comments on that new information), we may conclude that the species is endangered instead of threatened, or we may conclude that the species does not warrant listing as either an endangered species or a threatened species. In addition, we may change the parameters of the prohibitions or the exceptions to those prohibitions in the 4(d) rule if we conclude it is appropriate in light of comments and new information received. For example, we may expand the incidental-take prohibitions to include prohibiting additional activities if we conclude that those additional activities are not compatible with conservation of the species. Conversely, we may establish additional exceptions to the incidental-take prohibitions in the final rule if we conclude that the activities would facilitate or are compatible with the conservation and recovery of the species.

Public Hearing

Section 4(b)(5) of the Act provides for one or more public hearings on this proposal, if requested. Requests must be received by the date specified in **DATES**. Such requests must be sent to the address shown in **FOR FURTHER INFORMATION CONTACT**. We will schedule a public hearing on this proposal, if requested, and announce the date, time, and place of the hearing, as well as how to obtain reasonable

accommodations, in the *Federal Register* and local newspapers at least 15 days before the hearing. For the immediate future, we will provide these public hearings using webinars that will be announced on the Service's website, in addition to the *Federal Register*. The use of these virtual public hearings is consistent with our regulation at 50 CFR 424.16(c)(3).

Previous Federal Actions

The Service received a petition to list 53 amphibians and reptiles across the United States, including the alligator snapping turtle (*Macrochelys temminckii*), as threatened or endangered species on July 11, 2012. The subsequent 90-day finding (80 FR 37568, July 1, 2015) provided that the petition was substantial, and the alligator snapping turtle's status warranted further review. On September 1, 2015, the petitioner submitted supplemental information to add to the petition that described new studies that could lead to taxonomic differentiation of the single *Macrochelys* species into multiple entities (Center for Biological Diversity 2015, entire). This information was considered and is described in further detail below under the **Background** section of the **Proposed Listing Determination** section in this document. New information since the time of the original petition provided sufficient evidence to split alligator snapping turtle (*Macrochelys temminckii*) into two separate species based on genetic and morphological differences as well as geographic isolation, resulting in alligator snapping turtle (*M. temminckii*) and Suwannee alligator snapping turtle (*M. suwanniensis*). We are considering the two species for listing independently, and this proposed rule serves as the 12-month finding for the Suwannee alligator snapping turtle (*M. suwanniensis*).

Supporting Documents

A Species Status Assessment team composed of Service biologists prepared the SSA report for the Suwannee alligator snapping turtle (Service 2020, entire); the SSA team consulted with other species experts. The SSA report represents a compilation of the

best scientific and commercial data available concerning the status of the species, including the impacts of factors (both negative and beneficial) affecting the species in the past, present, and future. To ensure the scientific integrity of the analyses and information in the report, the SSA report was sent to four independent peer reviewers; one reviewer provided comments.

The SSA report and other materials relating to this proposal can be found at *http://www.regulations.gov* under Docket No. FWS–R4–ES–2021–0007.

I. Proposed Listing Determination

Background

A thorough review of the taxonomy, distribution, life history, and ecology of the Suwannee alligator snapping turtle (*Macrochelys suwanniensis*) is presented in the SSA report (Service 2020, pp. 5–13); however, much of this information is based on the *Macrochelys* genus as a whole and is not specific to the Suwannee alligator snapping turtle. Turtles in the genus *Macrochelys* are the largest species of freshwater turtle in North America, are highly aquatic, and are somewhat secretive. The genus includes two distinct species, *M. temminckii* and *M. suwanniensis*. *Macrochelys* turtles are characterized as having a large head, long tail, and an upper jaw with a strongly hooked beak. They have three raised keels with posterior elevations on the scutes of the carapace (upper shell), which is dark brown and often has algal growth that adds to their camouflage. Their eyes are positioned on the side of the head and are surrounded by small, fleshy, pointed projections that are unique to the genus.

Suwannee alligator snapping turtles are primarily freshwater turtles endemic to the Suwannee River basin and found more abundantly in the middle reaches of the Suwannee River where freshwater springs contribute to an increase in productivity of the aquatic system (Enge et al. 2014, p. 36). These turtles are typically bottom-dwelling, but surface periodically to breathe (Thomas 2014, p. 60). While the species is typically found

in fresh water, it can tolerate some salinity and brackish waters, as barnacles have been found on the carapace of some turtles. The species is found in a variety of habitats across its range, but all life stages rely on submerged material (i.e., deadhead logs and vegetation) as important structure for resting, foraging, and cover from predators (Enge et al. 2014, p. 39).

The Suwannee River basin encompasses parts of southern Georgia and northern Florida. Main water bodies that currently or historically supported Suwannee alligator snapping turtle include the Suwannee River, Santa Fe River, New River, Alapaha River, Little River, and Withlacoochee River. Historical distribution records of the Suwannee alligator snapping turtle are sparce, however it is thought the species has and is limited to the Suwannee river basin. Individuals occupy main river channels and tributaries, when habitat is present.

The Suwannee River experiences longitudinal changes in water chemistry from the low-nutrient acidic blackwater at the head to the saline delta (Ceryak et al. 1983, p. 46). Tidal variation is particularly evident during low-flow condition and can extend up to 43 kilometers (km, 26.7 miles) upstream from the mouth. Woody debris, undercut banks, and large rocks found throughout the river are important habitat during low water levels (Enge et al. 2014, p. 10).

The Suwannee alligator snapping turtle is a member of the Family Chelydridae, Order Testudinata, Class Reptilia. The taxonomic history of the alligator snapping turtle is complex and continues to evolve. The species was first described in 1789 as *Testudo planitia,* but Gray placed it in the genus *Macrochelys* in 1856. Although subsequent authors referred to the genus as *Macrochelys*, this placement was refuted and it was believed the alligator snapping turtle should be included in the genus *Macroclemys* (Smith 1955, p. 16). In 1995, Webb demonstrated that the genus *Macrochelys* has precedence over *Macroclemys*, and the Society for the Study of Amphibians and Reptiles

adopted this revision in 2000 (Crother et al. 2000, p. 79). Accordingly, for the purpose of this proposed rule, we will use *Macrochelys* as the genus name for the two distinct species, alligator snapping turtle (*Macrochelys temminckii*) and Suwannee alligator snapping turtle (*M. suwanniensis*). An abbreviated common name, Suwannee snapping turtle, may be used; however, Suwannee alligator snapping turtle is the preferred common name since the species is within the alligator snapping turtle genus and not the snapping turtle genus, *Chelydra*.

Historically, the alligator snapping turtle (*Macrochelys temminckii*) was considered a single, wide-ranging species until a recent analysis of variation in morphology and genetic structure among *M. temminckii* specimens resulted in differentiation of three species of alligator snapping turtles: alligator snapping turtle (*M. temminckii*), Apalachicola alligator snapping turtle (*M. apalachicolae*), and Suwannee alligator snapping turtle (*M. suwanniensis*) (Thomas et al. 2014, entire).

Subsequent morphological and genetic comparisons did not support distinguishing *Macrochelys apalachicolae* from *M. temminckii*; however, the data supported separation of the Suwannee population as a distinct species (Folt and Guyer 2015, entire).

In addition, seven rivers lie between *Macrochelys suwanniensis* and the most eastern population of *M. temminckii* where neither species has been documented (Ewert et al. 2006, pp. 60–61). This distributional gap likely resulted in the divergence of the Suwannee alligator snapping turtle due to geographical and genetic isolation as indicated by genetic and morphological distinction of *M. suwanniensis* (Folt and Guyer 2015, p. 449). The herpetology community, including the Society for the Study of Amphibians and Reptiles, recognizes two species of *Macrochelys*: (1) *M. temminckii* and (2) *M. suwanniensis* (Crother 2017, p. 88). The Turtle Taxonomy Working Group also concurs with the recognition of two species and provides evidence to support the distinction of *M.*

suwanniensis (Rhodin et al. 2017, p. 26).

Throughout this document, we provide descriptions of Suwannee alligator snapping turtle where the information is available specific to the species. We describe Suwannee alligator snapping turtle as *Macrochelys suwanniensis* or Suwannee alligator snapping turtle. We reference *Macrochelys* when describing the genus and *Macrochelys temminckii* when referring to the second species of the genus, alligator snapping turtle. Since the taxonomic distinction of the two *Macrochelys* spp. is relatively recent, we may refer to the genus, or alligator snapping turtles in general, to describe life-history traits.

The Suwannee alligator snapping turtle is primarily carnivorous and forages on small fish and mussels; however, adults are opportunistic feeders and may also consume crayfish, mollusks, smaller turtles, insects, nutria, snakes, birds, and plant material such as acorns or other available vegetation (Elsey 2006, pp. 448–489). *Macrochelys* turtles have evolutionarily developed an anatomical feature unique to the genus that assists with their predatory foraging strategy. These turtles have an appendage of soft tissue attached underneath the tongue that resembles a live, wiggling worm and serves as a lure to attract fish and other unsuspecting prey while the turtle is stationary with an open mouth. They have very fast reflexes and powerful jaws that aid in this type of foraging behavior.

The general life stages of *Macrochelys* spp. can be described as egg, hatchling (first year), juvenile (second year until age of sexual maturity), and adult (age of sexual maturity through death). Each life stage has specific requirements in order to contribute to the productivity of the next life stage. They excavate nests in sandy soils or other dry substrate near freshwater sources that are within 8 to 656 feet (2.5 to 200 meters) from the shore. The incubation period for Suwannee alligator snapping turtle is between 105 to 110 days (Ernst and Lovich 2009, p. 145).

Nests require temperatures of 66 to 80 degrees Fahrenheit (F) (19 to 26.5 degrees Celsius [C]), increasing to 79 to 98 degrees F (26.1 to 36.5 degrees C) as the season

progresses. The sex ratio of Suwannee alligator snapping turtles in the nest is dependent on the temperature of the nest during embryonic development. The offspring's sex is influenced by the physiological mechanism—temperature-dependent sex determination—where more males are produced at intermediate incubation temperatures, and more females are produced at the two, warmer and cooler, temperature extremes (Ernst and Lovich 2009, pp. 16, 146). Alligator snapping turtles, in general, have a pivotal temperature range of 77 to 80.6 degrees F (25 to 27 degrees C) that produces more male hatchlings than females (Ewert and Jackson 1994, pp. 12–13).

Once emerged from the nest, hatchlings need shallow water with riparian vegetative structure that provides canopy cover. Juveniles require small streams with mud and gravel bottoms that have submerged structures, such as tree root masses, stumps, and submerged live and dead trees that allows for foraging and protection from predators. Juvenile survival rate is estimated at only about 5 percent, with most mortality occurring in the first 2 years of life (Ernst and Lovich 2009, p. 150).

Males achieve sexual maturity in 11–21 years and females in 13–21 years (Ernst and Lovich 2009, p. 144; Reed et al. 2002, p. 4). The age of sexual maturity can be influenced by the size of the turtle, as size increases are greater when food resources and other environmental conditions are more favorable. Adult Suwannee alligator snapping turtles require streams and rivers with submerged logs and undercut banks, clean water, and ample prey. Turtles found in higher quality habitat are more likely to become sexually mature at an earlier age and may also produce larger clutch sizes (Ernst and Lovich 2009, p. 145). Adult turtles require access to mates to fertilize eggs, with mating occurring underwater (Ernst and Lovich 2009, p. 144). Mating has been observed in captive alligator snapping turtles from February to October, but geographic variation within the wild population is not well understood (Reed et al. 2002, p. 4). A gravid female will search for suitable nesting habitat on land to construct a nest, avoiding low

forested areas with abundant leaf litter and root mats that may cause nesting obstructions. She will excavate a cavity, deposit the eggs, and bury the eggs that are about 24 centimeters (cm) in depth in approximately 3.5 to 4 hours (Ewert 1976, p. 153; Powders 1978, p. 155; Thompson et al. 2016, entire). Once the female has completed the nest, she returns to the water, and there is no other parental care of the nest or offspring.

Female alligator snapping turtles may produce a single clutch once a year or every other year at most even if the conditions are good (Reed et al. 2002, p. 4). Clutch size may vary across the species' range between 9 to 61 eggs, with a mean clutch size of 27 eggs (Ernst and Lovich 2009, p. 145). Most nesting occurs from May to July (Reed et al. 2002, p. 4).

Suwannee alligator snapping turtles are long-lived species; provided suitable conditions, adults can reach carapace lengths of up to 29 inches and 249 pounds for males, while females can reach lengths of 22 inches and 62 pounds. The oldest documented *Macrochelys* turtle in captivity survived to at least 80 years of age, but in the wild, the species may live longer (Ernst and Lovich 2009, p. 147). The generation time for the species is around 31 years (range = 28.6–34.0 years, 95 percent confidence interval, Folt et al. 2016, p. 27).

Regulatory and Analytical Framework

Regulatory Framework

Section 4 of the Act (16 U.S.C. 1533) and its implementing regulations (50 CFR part 424) set forth the procedures for determining whether a species is an endangered species or a threatened species. The Act defines an endangered species as a species that is "in danger of extinction throughout all or a significant portion of its range," and a threatened species as a species that is "likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." The Act requires

that we determine whether any species is an endangered species or a threatened species because of any of the following factors:

(A) The present or threatened destruction, modification, or curtailment of its habitat or range;

(B) Overutilization for commercial, recreational, scientific, or educational purposes;

(C) Disease or predation;

(D) The inadequacy of existing regulatory mechanisms; or

(E) Other natural or manmade factors affecting its continued existence.

These factors represent broad categories of natural or human-caused actions or conditions that could influence a species' continued existence. In evaluating these actions and conditions, we look for those that may have a negative effect on individuals of the species, as well as other actions or conditions that may ameliorate any negative effects or may have positive effects.

We use the term "threat" to refer in general to actions or conditions that are known to or are reasonably likely to negatively affect individuals of a species. The term "threat" includes actions or conditions that have a direct impact on individuals (direct impacts), as well as those that affect individuals through alteration of their habitat or required resources (stressors). The term "threat" may encompass—either together or separately—the source of the action or condition or the action or condition itself.

However, the mere identification of any threat(s) does not necessarily mean that the species meets the statutory definition of an "endangered species" or a "threatened species." In determining whether a species meets either definition, we must evaluate all identified threats by considering the expected response by the species, and the effects of the threats—in light of those actions and conditions that will ameliorate the threats—on an individual, population, and species level. We evaluate each threat and its expected

effects on the species, then analyze the cumulative effect of all the threats acting on the species. We also consider the cumulative effect of the threats as well as those actions and conditions that will have positive effects on the species, such as any existing regulatory mechanisms or conservation efforts. The Secretary determines whether the species meets the definition of an "endangered species" or a "threatened species" only after conducting this cumulative analysis and describing the expected effect on the species now and in the foreseeable future.

The Act does not define the term "foreseeable future," which appears in the statutory definition of "threatened species." Our implementing regulations at 50 CFR 424.11(d) set forth a framework for evaluating the foreseeable future on a case-by-case basis. The term foreseeable future extends only so far into the future as the Service can reasonably determine that both the future threats and the species' responses to those threats are likely. In other words, the foreseeable future is the period of time in which we can make reliable predictions. "Reliable" does not mean "certain"; it means sufficient to provide a reasonable degree of confidence in the prediction. Thus, a prediction is reliable if it is reasonable to depend on it when making decisions.

It is not always possible or necessary to define foreseeable future as a particular number of years. Analysis of the foreseeable future uses the best scientific and commercial data available and should consider the timeframes applicable to the relevant threats and to the species' likely responses to those threats in view of its life-history characteristics. Data that are typically relevant to assessing the species' biological response include species-specific factors such as lifespan, reproductive rates or productivity, certain behaviors, and other demographic factors.

Analytical Framework

The SSA report documents the results of our comprehensive biological status review, including an assessment of the potential threats to the species (Service 2020,

entire). The SSA report does not represent a decision by the Service on whether the species should be proposed for listing as an endangered or threatened species under the Act. It does, however, provide the scientific basis that informs our regulatory decisions, which involve the further application of standards within the Act and its implementing regulations and policies. The following is a summary of the key results and conclusions from the SSA report; the full SSA report can be found at Docket FWS–R4–ES–2021–0007 on *http://www.regulations.gov*.

To assess the Suwannee alligator snapping turtle's viability, we used the three conservation biology principles of resiliency, redundancy, and representation (Shaffer and Stein 2000, pp. 306–310). Briefly, resiliency supports the ability of the species to withstand environmental and demographic stochasticity (for example, wet or dry, warm or cold years), redundancy supports the ability of the species to withstand catastrophic events (for example, droughts, large pollution events), and representation supports the ability of the species to adapt over time to long-term changes in the environment (for example, climate changes). In general, the more resilient and redundant a species is and the more representation it has, the more likely it is to sustain populations over time, even under changing environmental conditions. Using these principles, we identified the species' ecological requirements for survival and reproduction at the individual, population, and species levels, and described the beneficial and risk factors influencing the species' viability.

The SSA process can be categorized into three sequential stages. During the first stage, we evaluate an individual species' life-history needs. The next stage involves an assessment of the historical and current condition of the species' demographics and habitat characteristics, including an explanation of how the species arrived at its current condition. The final stage of the SSA involves making predictions about the species' responses to positive and negative environmental and anthropogenic influences.

Throughout all of these stages, we used the best available information to characterize viability as the ability of a species to sustain populations in the wild over time. We use this information to inform our regulatory decisions.

Summary of Biological Status and Threats

In this section, we review the biological condition of Suwannee alligator snapping turtle and its needs and describe the factors that influence the species' overall viability and the risks to that viability.

Threats

We provide information regarding past, present, and future influences, including both positive and negative, on the Suwannee alligator snapping turtle's current and future viability including illegal harvest (Factor B), bycatch (Factor E), habitat alteration (Factor A), nest predation (Factor C), climate change (Factor E), and conservation measures. The existing regulatory mechanisms (Factor D) have not been adequate to arrest the decline of the species. Additional threats such as historical commercial and recreational harvest targeting the species, disease, parasitic insects, and contaminants are described in the SSA; these additional threats may negatively affect individuals of the species or historically affected the species, particularly when compounded with other ongoing stressors or threats. However, they do not threaten the species' overall viability.

Harvest (Commercial and Poaching)

Commercial and Recreational Harvest

Commercial and recreational turtle harvesting practices in the last century resulted in a decline of the Suwannee alligator snapping turtle across its range (Enge et al. 2014, p. 4). Commercial harvest of both species of alligator snapping turtles reached its peak in the late 1960s and 1970s when the meat was used for commercial turtle soup products and sold in large quantities for public consumption. In addition, many restaurants served turtle soup and purchased large quantities of alligator snapping turtles from trappers in

the southeastern States (Reed et al. 2002, p. 5). In the 1970s, the demand for turtle meat was so high that as much as three to four tons of alligator snapping turtles (*M. temminckii*) were harvested from the Flint River in Georgia per day (Pritchard 1989, p. 76). The Florida Game and Fresh Water Fish Commission (now the Florida Fish and Wildlife Conservation Commission [FWC]) reported significant numbers of turtles being taken from the Apalachicola and Ochlocknee Rivers to presumably be sent to restaurants in New Orleans and other destinations (Pritchard 1989, pp. 74–75). While such large-scale removal of *Macrochelys* turtles occurred across the range of the genus, the population demographics of Suwannee alligator snapping turtles in Florida indicate there was likely less commercial harvesting activities in the Suwannee River drainage than elsewhere (Enge et al. 2017, p. 6; Enge et al. 2014, entire; Johnston et al. 2015, entire).

Florida prohibited the commercial harvest of all *Macrochelys* spp. in 1972 and recreational or personal harvest in 2009; Georgia prohibited all harvest in 1992 (Service 2020, pp. 14–15). Despite the prohibitions on commercial and recreational harvest for the species, the effects from historical removal of large turtles continues to affect the species due to their low fecundity, low juvenile survival, long lifespan, and delayed maturity. Commercial harvest is not currently a threat to Suwannee alligator snapping turtle, but the effect of historical large-scale removal of large turtles is ongoing.

Illegal Harvest (Poaching)

Although both Florida and Georgia have prohibited recreational harvest, there is an international and domestic demand for turtles for consumption and for herpetofauna enthusiasts who collect turtle species for pets (Stanford et al. 2020, entire). The Suwannee alligator snapping turtle is no exception; farmed, hatchling alligator snapping turtles may be sold for up to 195 U.S. dollars per turtle (Lejeune et al. 2020, p. 8; MorphMarket 2020, unpaginated). Illegal harvest, or poaching, of Suwannee alligator snapping turtle may occur anywhere within its range for both the pet trade and turtle meat

trade. The best available information regarding potential pressure from poaching comes from documented reports by law enforcement agencies and court cases involving the congeneric (species within the same genus) alligator snapping turtle. In a 2017 case, 3 men were convicted of collecting 60 large alligator snapping turtles (*M. temminckii*) in a single year in Texas and transporting them across State lines, violating the Lacey Act (Department of Justice 2017, entire). We expect that illegal harvest is affecting Suwannee alligator snapping turtles, given it has been documented on many occasions for the heterospecific alligator snapping turtle. Illegal harvest is an ongoing threat to Suwannee alligator snapping turtle because removing adult female turtles from the population lowers the viability of the species by reducing reproductive potential; in addition, the species is long-lived, slow to mature, and juvenile survival is very low making it more difficult for the historically over-harvested population to recover.

Aside from the local and domestic use of turtles, the global demand for pet turtles and turtle meat continues to increase. Many species of turtles are collected from the wild as well as bred in captivity and are sold domestically and exported internationally. *Macrochelys* spp. are regularly exported out of the United States, typically as hatchlings or juveniles, to initiate brood stock for overseas turtle farms and for turtle collectors. According to the Service's Law Enforcement Management Information System (LEMIS), which provides reports about the legal international wildlife trade, most shipments of live alligator snapping turtles exported from 2005 to 2018 consisted of small turtles destined mostly for Hong Kong and China (Service 2018, entire). Prior to 2006, up to 23,780 *M. temminckii* per year were exported from the United States (70 FR 74700, December 16, 2005).

In 2006, *Macrochelys temminckii* was listed under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) as an Appendix III species to allow for better monitoring of exports. At the time of the CITES

listing, *M temminckii* was a single species; thus, *M. suwanniensis* is included under this listing.

Impacts of Harvest

Because of Suwannee alligator snapping turtle's life history with delayed maturity, long generation times, and relatively low reproductive output, the species cannot sustain collection from the wild, especially of adult females, over any length of time (Reed et al. 2002, pp. 8–12). Adult turtles do not reach sexual maturity until 11 to 21 years of age. A mature female typically produces only one clutch per year consisting of 8–52 eggs (Ernst and Barbour 1989, p. 133). These turtles are characterized by low survivorship in early life stages, but surviving individuals may live many decades once they reach maturity. The life-history traits of the species (low fecundity, late age of maturity, and low survival of nests and juveniles) contribute to the population's slow response rebound after historical over-exploitation. Therefore, population growth rates are extremely sensitive to the harvest of adult females. Adult female survivorship less than 98 percent per year is considered unsustainable, and a further reduction of this adult survivorship will generally result in significant local population declines (Reed et al. 2002, p. 9), though dynamics likely vary across the species' range. These data underscore how influential adult female mortality is on the ability of the species to maintain viable populations.

Although regulatory harvest restrictions have decreased the number of Suwannee alligator snapping turtles harvested, populations have not necessarily increased in response. This lag in population response is likely due to the demography of the species—specifically delayed maturity, long generation times, and relatively low reproductive output. The Suwannee alligator snapping turtle population remains low despite commercial and recreational harvest prohibitions (Florida Fish and Wildlife Conservation Commission 2017, p. 6).

Bycatch

Suwannee alligator snapping turtles can be killed or harmed incidentally during fishing and other recreational activities. Some of these threats include fish hook ingestion, drowning when hooked on trotlines (a fishing line strung across a stream with multiple hooks set at intervals) and limb lines, or bush hooks, (single hooks hung from branches), jug lines (line with a hook affixed to a floating jug) along with injuries and drowning when entangled in various types of fishing line. Hoop nets are also used to capture catfish and baitfish and are made up of a series of hoops with netting and funnels where fish enter but are unable to escape through the narrow entry point. The nets are left submerged and may entrap small Suwannee alligator snapping turtles that enter the traps and are unable to escape. Boats and boat propeller strikes may also injure or kill Suwannee alligator snapping turtles; however, this effect is not limited to fishing boats.

Actively used or discarded fishing line and hooks pose harm to Suwannee alligator snapping turtles. They can ingest baited fishhooks and attached fishing line and, depending on where ingested hooks and line lodge in the digestive tract, they can cause harm or death (Enge et al. 2014, pp. 40–41). For example, hooks and line can cause gastrointestinal tract blockages, and the hooks can puncture the digestive organs, leading to mortality (Enge et al. 2014, pp. 40–41). Fishhooks have been found in the gastrointestinal tracts of radiographed Suwannee alligator snapping turtles (Enge et al. 2014, entire; Thomas 2014, pp. 42–43).

Trotlines also negatively affect Suwannee alligator snapping turtles. Trotlines are a series of submerged lines with hooks off a longer line. Trotline fishing involves leaving the lines unattended for extended periods, before returning to check them. Limblines and bush hooks are similar to trot lines in that they are typically set and left unattended; however, they only use a single hook. The turtles can become entangled in the lines and drown, as well as ingest trotline hooks and lines, also causing drowning or internal

injuries. Bycatch from trotlines that resulted in mortality of *Macrochelys* turtles has been well documented. Dead turtles have been found on lines that had seemingly been abandoned (Moore et al. 2013, p. 145). The lines and hooks may also become dislodged from their place of attachment when left unattended, becoming aquatic debris that remains in the waterway for extended periods of time and may continue to be an entanglement hazard for many species, including Suwannee alligator snapping turtles.

Another stressor associated with recreational fishing and boating is harm caused by boat propeller strikes. Collisions with boat propellers by unsuspecting surfacing or submerged turtles can injure them resulting in extensive damage to their carapaces, though effects on population demographic rates are unknown (Enge et al. 2014, p. 41).

Habitat Alteration

Suwannee alligator snapping turtle aquatic and nesting habitats have been altered by anthropogenic disturbances. Changes in the riparian or nearshore areas affect the amount of suitable soils for nesting sites because the species constructs nests on land near the water. Riparian cover is important as it moderates in-stream water temperatures and dissolved oxygen levels. In addition to affecting the distribution and abundance of alligator snapping turtle prey species, these microhabitat conditions affect the snapping turtles directly. Moderate temperatures and sufficient dissolved oxygen levels allow the turtles to remain stationary on the stream bottom for longer periods, increasing the ambush foraging opportunities. Changes in the riparian structure may affect the microclimate and conditions of the associated water body, directly affecting the foraging success of the turtles.

Activities and processes that can alter habitat include dredging, deadhead logging (removal of submerged or partially submerged snags, woody debris and other large vegetation for wood salvage), removal of riparian cover, channelization, stream bank erosion, siltation, and land use adjacent to rivers (e.g., clearing land for agriculture).

These activities negatively influence habitat suitability for Suwannee alligator snapping turtles. Erosion can change the stream bank structure affecting the substrate that may be suitable for nesting or accessing nesting sites. Siltation affects water quality and may reduce the health and availability of prey species. Channelization destroys the natural benthic habitat and also affects the water depth and normal flow. Submerged obstacles may be removed during the channelization, which affects the microhabitat dynamics within the waterway and removes important structure for alligator snapping turtles to use for resting, foraging, and cover from predators. While channelization within the species' range does not regularly occur, it is not prohibited. Deadhead logs and fallen riparian woody debris, where present, provide refugia during low-water periods and resting areas for all life stages and support important feeding areas for hatchlings and juveniles (Enge et al. 2014, p. 40; Ewert et al. 2006, p. 62).

Suwannee alligator snapping turtle habitat is also influenced by water availability and quantity as well as water quality across its range. Ground water withdrawals in the Florida portion of the species' range are managed by the Suwannee River Water Management District (SRWMD); withdrawals increased by 64 percent between 1975 and 2000, mostly for irrigation. Most withdrawals in the basin occur in agricultural areas along the Suwannee River during the spring (March through May) (Thom et al. 2015, p. 2). Water withdrawals may reduce flow in some streams, effectively isolating some turtles from the rest of the population or making immature turtles more vulnerable to predators. Additionally, reduced water levels may impact prey abundance and distribution through restricting habitat connectivity, reducing dissolved oxygen levels, and increasing water temperatures.

Water quality may also be a factor for Suwannee alligator snapping turtles as contaminants enter the aquatic systems through runoff. The Lower Suwannee River's middle and lower basins are directly impacted by nutrients, including nitrates.

Agricultural practices are the main source of nitrates, which specifically come from fertilizers and in some cases from manure and other waste products. They introduce nitrates to the river and groundwater (i.e., springs) through surface runoff and groundwater seepage. Groundwater seepage transports nitrates to the aquifer, which then reemerge through springs and other groundwater discharge, especially during low flow periods (Pittman et al. 1997, entire; Katz et al. 1999, entire; FDEP 2003; Thom et al. 2015, p. 2).

The direct effects of water quality and water quantity on Suwannee alligator snapping turtle have not been quantified; however, as the human population that relies on water systems in the species' range continues to increase, the indirect effects across the entire range, coupled with other stressors, is likely to further reduce the species' viability. Underscoring the potential severity of this threat, Florida's human population is anticipated to grow from nearly 21.5 million in 2019 to more than 24.0 million by 2030 (Rayer and Wang 2020, p. 9). The public water supply demand will increase with increased human population growth. All counties within the species' range in Florida (Columbia, Union, Bradford, Alachua, Gilchrist, Levy, Dixie, Lafayette, Suwannee, Madison, and Hamilton Counties) are part of the SRWMD supply area and are projected to increase in public water supply demand by an average of 11.29 percent increase in millions of gallons of water per day from 2010 to 2035 (SRWMD 2015, p. 42). In addition, the human population in these counties will experience an average of 17.25 percent population growth from the year 2010 to 2035 (SRWMD 2015, p. 43). As the human population increases, other threats to the species and its habitat are likely to increase. For example, recreational use of the Suwannee River will more than likely continue to rise, which will increase human encounters with Suwannee alligator snapping turtle through incidental bycatch or boat strikes. Also, more development may result in an increase in contaminated runoff and declines in water quality.

Nest Predation

Nest predation rates for *Macrochelys* spp. are high. Raccoons (*Procyon lotor*) are common nest predators, but nine-banded armadillos (*Dasypus novemcinctus*), Virginia opossums (*Didelphis virginiana*), bobcats (*Lynx rufus*), and river otters (*Lontra canadensis*) may also depredate nests (Ernst and Lovich 2009, p. 149; Ewert et al. 2006, p. 67; Holcomb and Carr 2013, p. 482). Additional nonnative species found within the species' range that may depredate nests include feral pigs (*Sus scrofa*) and invasive red imported fire ants (*Solenopsis invicta*) (Pritchard 1989, p. 69). Although not documented in Suwannee alligator snapping turtle nests, fire ants are prevalent across the species' range, and predation by fire ants was the suspected culprit in the failure of alligator snapping turtle (*M. temminckii*) nests in Louisiana (Holcomb 2010, p. 51). Beyond nest failure, some hatchlings endured wounds inflicted by fire ants that led to the loss of a limb or tail, which reduced their mobility and their chance of survival (Holcomb 2010, p. 72). The recovery of the species from historical overharvest depends on successful reproduction and survival of young. The currently low population size does not allow for absorbing the impact of elevated nest predation. The degree of added threat from the newer, introduced nest predators is unknown, but we can conclude that the overall threat from nest predation is greater than it was in the past because of the introduced predators. Coupled with other threats, nest predation will continue to negatively affect the species' overall viability.

Climate Change

Climate change may also affect Suwannee alligator snapping turtle to varying degrees, but the extent of impact is influenced by certain geographical factors, including proximity to the coast and latitudinal thermogradients. Climate change may affect Suwannee alligator snapping turtle in several ways. First, increased water withdrawal for human use (i.e., potable water and agriculture irrigation) and reduced precipitation may

directly and indirectly impact habitat, food, and water availability throughout the Suwannee river basin. In addition, available water will be affected as greater evaporation will occur with continued warming temperatures. Furthermore, increased temperatures may have physiological impacts on sex ratios because these turtles have temperature-dependent sex determination, and higher temperatures may skew the sex ratio.

In the southeastern United States, temperatures are predicted to warm by 4–8 °F (2.2–4.4 °C) by 2100 (Carter et al. 2014, p. 399). Temperature determines the sex of the *Macrochelys* developing embryos; certain nest temperatures result in primarily male hatchlings with females produced at temperatures of the two extremes of the intermediate male-producing temperatures. Females are produced when the nest temperatures are either cooler or warmer than the temperature threshold for male development. In order to develop mixed ratios of both sexes, fluctuating temperatures near the intermediate and extremes are ideal. In addition to temperature effects on sex ratio, temperature has been associated with nest viability, with highest viability in nests with intermediate sex ratios (produced at the male-producing intermediate temperature range with fluctuations of warmer or cooler temperatures for female-producing temperatures during the incubation period) and lowest in nests with female-biased sex ratios (Ewert and Jackson 1994, pp. 28–29). Thus, warming temperatures might lead to Suwannee alligator snapping turtle nests with strongly female-biased sex ratios. These skewed sex ratios may result in declining viability as mating behaviors are altered and other issues with unbalanced populations arise.

Collectively, these impacts from reduced precipitation and increased temperature would reduce the quality or availability of suitable habitat for the Suwannee alligator snapping turtle (Thom et al. 2015, p. 126). Climate change impacts on the Suwannee alligator snapping turtle will likely act in concert with and exacerbate other threats and stressors' impacts.

Other Stressors

Other stressors that may affect Suwannee alligator snapping turtles include disease, nest parasites, contaminants from urban and agricultural runoff, and historical recreational harvest, but none of these stressors rise to the level of a threat. These stressors may act on individuals or have highly localized impacts. , While each is relatively uncommon, these stressors may exacerbate the effects of other ongoing threats.

Additional information on these stressors acting on the species is available in the species' SSA in the Factors Influencing Viability section (Service 2020, pp. 14–20). It includes historical and current threats that have caused and are causing a decline in the species' viability. The primary threats currently acting on the species include illegal harvest, nest predation, and hook ingestion/entanglement. These primary threats are not only affecting the species now but are expected to continue impacting the species and were included in the species' future condition projections in the SSA (Service 2020, pp. 30–45).

Regulatory Mechanisms

Several State and Federal regulatory mechanisms protect the Suwannee alligator snapping turtle and its habitat.

Clean Water Act

Section 401 of the Federal Clean Water Act (CWA) requires that an applicant for a Federal license or permit provide a certification that any discharges from the facility will not degrade water quality or violate water-quality standards, including State-established water quality standard requirements. Section 404 of the CWA establishes programs to regulate the discharge of dredged and fill material into waters of the United States.

Permits to fill wetlands; to install, replace, or remove culverts; to install, repair, replace, or remove bridges; or to realign streams or water features that are issued by the

Florida Department of Environmental Protection or U.S. Army Corps of Engineers under Nationwide, Regional General Permits, or Individual Permits include:

- Nationwide Permits are for "minor" impacts to streams and wetlands and do not require an intense review process. The impacts allowed under Nationwide Permits usually include projects affecting stream reaches less than 150 feet (45.72 m) in length, and wetland fill projects up to 0.50 acres (0.2 hectare). Mitigation is usually provided for the same type of wetland or stream impacted and is usually at a 2:1 ratio to offset losses.
- Regional General Permits are for various specific types of impacts that are common to a particular region; these permits will vary based on location in a certain region/State.
- Individual permits are for the larger, higher impact, and more complex projects. These require a complex permit process with multi-agency input and involvement. Impacts in these types of permits are reviewed individually, and the compensatory mitigation chosen may vary depending on the project and types of impacts.

The Clean Water Act regulations ensure proper mitigation measures are applied to minimize the impact of activities occurring in streams and wetlands where the species occurs. These regulations contribute to the conservation of the species by minimizing or mitigating the effects of certain activities on Suwannee alligator snapping turtles and their habitat.

Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)

Suwannee alligator snapping turtle is included under *Macrochelys* spp., in the CITES Appendix III species list. *Macroclemys [=Macrochelys] temminckii* was listed as an Appendix III species under CITES. At the time the species was added to the list in 2006, the genus was a single species described as *Macroclemys* and synonymous with *Macrochelys* (70 FR 74700, December 16, 2005). Both species, alligator snapping turtle

and Suwannee alligator snapping turtle, are protected under this regulation because they were included as a single entity at the time of the CITES Appendix III listing. CITES requires permits for exports of Appendix III species as well as annual reporting; annual reports must include the number of exported individuals of listed species. These requirements help control and document legal, international trade. Thus, Appendix-III listings lend additional support to State wildlife agencies in their efforts to regulate and manage these species, improve data gathering to increase knowledge of trade in the species, and strengthen State and Federal wildlife enforcement activities to prevent poaching and illegal trade.

While the CITES reporting indicates the number of turtles exported with other relevant data, the information required for the export reports does not always accurately identify the source stock of the exported turtle(s). Most alligator snapping turtles that were exported between 2005 and 2018 were identified as "wild" individuals; however, many were likely from farmed parental stock (Service 2018, entire). The discrepancy in reporting the actual source of the internationally exported turtles does not allow us to easily evaluate the impact of export on Suwannee alligator snapping turtles. Additionally, there are no reporting requirements to track domestically traded alligator snapping turtles, which are not included in CITES reporting.

National Wildlife Refuges

Approximately 5 percent of the Suwannee alligator snapping turtle's range includes areas within two National Wildlife Refuges (NWR), Okefenokee in Georgia and Lower Suwannee in Florida. These Refuges are managed by the Service to conserve native wildlife species and their habitats and are protected from future development. Both NWRs have comprehensive conservation plans (CCP) that ensure each NWR is managed to fulfill the purpose(s) for which it was established.

Okefenokee NWR is at the northernmost proximity of the species' range and is a freshwater wetland. There are only a few anecdotal reports within Okefenokee NWR. There have been no systematic surveys conducted within the swamp, so the extent of use by the species of that area has not yet been documented. However, the paucity of documented and anecdotal records from the surrounding areas would indicate that the species is not common or widespread at this location.

The Okefenokee NWR CCP includes a strategy within their wildlife management goal to "develop and implement surveys to determine distribution and population status of amphibians and reptiles, particularly those species that are threatened, endangered, or species of special concern." The CCP also includes an objective to "identify factors influencing declines in the refuge's fishery by examining water chemistry, groundwater withdrawals, water quality, pH levels, invertebrate populations and the physical environment. Evaluate feasibility of restoring the fish population (Service 2006, pp. 84–86)." This knowledge would clearly benefit management of the Suwannee alligator snapping turtle.

The Lower Suwannee NWR is at the mouth of the Suwannee River where it feeds into the Gulf of Mexico. Twenty miles of the Suwannee River is within the refuge and is suitable habitat for Suwannee alligator snapping turtles, albeit less so as salinity increases the closer the river gets to the Gulf of Mexico. The species is considered common within the Refuge, and nesting has been confirmed; however, the species is not commonly seen (due to their ability to burrow into the river or creek banks, or sitting on the bottom and staying submerged until surfacing for air is needed), and cryptic coloration when submerged makes detection of the species very difficult (Woodward 2021, pers. comm.). The Lower Suwannee NWR CCP includes management actions that may benefit the species and provides goals for wildlife, habitat, and landscape management. The CCP's objectives and strategies provide that the refuge monitor and manage wildlife

populations, manage the habitats for threatened and endangered species and species of special concern in the State of Florida, and promote interagency and private landowner cooperation (Service 2001, pp. 11–22). The Lower Suwannee River NWR provides logistical, operational, in-kind, and financial support to FWC's Suwannee alligator snapping turtle team to conduct surveys on the refuge.

Department of Defense—Moody Air Force Base

Moody Air Force Base is near Valdosta, Georgia, and has many freshwater ponds and a large lake, Mission Lake, that drains into the Grand Bay system. Suwannee alligator snapping turtles do not commonly occur on Moody Air Force Base, but they are occasionally found. The Base's Integrated Natural Resources Management Plan (INRMP) describes *Macrochelys* as occurring on the Base; however, there are no management activities described directly for the species in the INRMP. The Department of Defense ensures INRMPs are consistent with the Sikes Act Improvement Act of 1997, as amended through 2010 (16 United States Code [U.S.C.] 670a et seq.), which requires the preparation, implementation, update, and review of an INRMP for each military installation in the United States and its territories with significant natural resources.

State Protections

The Suwannee alligator snapping turtle is State-listed in both Florida and Georgia as a threatened species. The Florida Fish and Wildlife Conservation Commission (FWC) directs staff to evaluate all species listed as Threatened or Species of Special Concern as of September 1, 2010, as required by rule 68A–27.0012 Florida Administrative Code, which makes it illegal to take, possess, or sell the Suwannee alligator snapping turtle, as it is a protected species. Since the original 2010 biological status review, two species of alligator snapping turtle were differentiated based upon genetic and skeletal differences (Thomas et al. 2014, entire), necessitating new biological status reviews of both species. During FWC's 2017 biological assessment of *Macrochelys*, it was determined by the

biological review group that *M. suwanniensis* was distinct and warranted listing as Threatened based upon IUCN Red List criteria (Enge et al. 2017. p. 3).

Florida developed a Species Action Plan (SAP) that includes all *Macrochelys* spp. due to their similarity in appearance, vulnerability to deliberate human take, incidental take with fishing gear, pollution, riverine habitat alteration, and nest predation (FWC 2018, p. iii). The objectives of the SAP include: Habitat Conservation and Management, Population Management, Monitoring and Research, Rule and Permitting Intent, Law Enforcement, Incentives and Influencing, Education and Outreach, and Coordination with Other Entities (FWC 2018, pp. 10–27). Implementation of the *Macrochelys* spp. SAP is ongoing (FWC 2018, entire). FWC has established a team of biologists, the Suwannee alligator snapping turtle team, who continue to study the species to better understand the species and population trends.

Both *Macrochelys suwanniensis* and *M. temminckii* are found in Georgia, but their ranges do not overlap. Georgia listed *M. temminckii* as threatened in 1992, which at the time included both species, and continues to cover both species as threatened. State law protects threatened animal species by prohibiting their harassment, capture, killing, sale, and purchase; and destruction of their habitat on public land (Georgia Administrative Code section 391-4-10-.06). In the State's Wildlife Action Plan, the Department of Natural Resources indicates they intend to conduct genetic, taxonomic, and reproductive studies of high-priority species (GDNR 2015, p. D–5). Current State regulations are intended to minimize the impact of poaching and also contribute to the conservation of the species through public outreach. Because of the life history of the species with generation times up to 30 years, recovery from historical impacts to the population take greater time to be rebuild a healthy, sustainable population.

State and Federal Stream Protections (Deadhead Logging)

Structural features within the water are important components of the habitat for Suwannee alligator snapping turtles. Submerged and partially submerged vegetation provide feeding and sheltering areas for all age classes. The structural diversity and channel stabilization created by instream woody debris provides essential habitat for spawning and rearing aquatic species (Bilby 1984, p. 609 and Bisson et al. 1987, p. 143). Snag or woody habitat was reported as the major stable substrate in southeastern Coastal Plain sandy-bottom streams and a site of high invertebrate diversity and productivity (Wallace and Benke 1984, p. 1651). Wood enhances the ability of a river or stream ecosystem to use the nutrient and energy inputs and has a major influence on the hydrodynamic behavior of the river (Wallace and Benke 1984, p. 1643). One component of this woody habitat is deadhead logs, which are sunken timbers from historical logging operations. Deadhead logging is the removal of submerged cut timber from a river or creek bed and banks. However, current State regulations minimize the impact of deadhead logging on Suwannee alligator snapping turtle. Florida allows deadhead logging only with proper permits from the Florida Department of Environmental Protection, the consideration of which includes assessment of impacts on wildlife. Further, the State prohibits deadhead logging in some of the waterways in the species' range. Georgia is not currently processing permits; therefore, deadhead logging is not currently being permitted in any of its waterways.

State and Federal Stream Protections (Buffers and Permits)

A buffer such as a strip of trees, plants, or grass along a stream or wetland naturally filters out dirt and pollution from rainwater runoff before it enters rivers, streams, wetlands, and marshes. This vegetation not only serves as a filter for the aquatic system, but the riparian cover influences microhabitat conditions such as in-stream water temperature and dissolved oxygen levels. These habitat conditions not only influence the distribution and abundance of alligator snapping turtle prey species but also directly

affect Suwannee alligator snapping turtles. Moderate temperatures and sufficient dissolved oxygen levels allow the turtles to remain stationary on the stream bottom for longer periods, increasing their ambush foraging opportunities. Loss of riparian vegetation and canopy cover result in increased solar radiation, elevation of stream temperatures, loss of allochthonous (organic material originating from outside the channel) food material, and removal of submerged root systems that provide habitat for alligator snapping turtle prey species (Allan 2004, pp. 266–267).

The Georgia Erosion and Sediment Control Act restricts disturbance and trimming of vegetation within a 25-ft (7.62-m) buffer adjacent to creeks, streams, rivers, saltwater marshes, and most lakes and ponds, and the Georgia Planning Act requires some local governments to adopt a 100-ft (30.48-m) buffer. Georgia also has a non-point water pollution source management program under which the State established and updates a Nonpoint Source Management Plan; this plan sets long-term goals and short-term activities for the State, partners, and stakeholders to address non-point source pollution. Although not focused on buffers per se, the Florida Surface Water Improvement and Management Act addresses statewide non-point source pollution impacts to waterbodies on a landscape scale and partners with Federal, State, and local governments, and the private sector to restore damaged ecosystems and prevent pollution from storm water runoff (Florida Administrative Code, Rule: 62–43.010).

Conservation Measures

In this section, we describe conservation measures in place for Suwannee alligator snapping turtle. Many efforts are directed to *Macrochelys* in general; however, we are describing below those that affect only Suwannee alligator snapping turtle.

Suwannee River Water Management District (SRWMD)

Water conservation measures restricting lawn and landscaping irrigation can benefit the Suwannee alligator snapping turtle by limiting water withdrawal, which

directly benefits the turtle through maintaining available habitat and supporting habitat for prey species, and by reducing runoff of fertilizers and other turf management chemicals that could disrupt or alter water chemistry in the streams. The SRWMD manages the water and other related resources within the range of the Suwannee alligator snapping turtle including the Suwannee, Withlacoochee, Alapaha, Santa Fe, and Ichetucknee Rivers within Florida. The agency monitors the water quantity and quality by regular testing and reporting. It also implements water-use restrictions to conserve freshwater resources of springs and rivers within the SRWMD. Unnecessary water use is discouraged, and landscape irrigation restrictions are implemented as needed such as limiting watering to twice per week based on a District water conservation measures that apply to residential landscaping, public or commercial recreation areas, and businesses that are not regulated by a District-issued water use permit (SRWMD 2021, unpaginated). Landscape irrigation accounts for the largest percentage of household water use in the State of Florida. Mandatory lawn and landscape watering measures are in effect throughout the SRWMD. These restrictions contribute to maintaining healthy groundwater level and flows.

Current Condition

The current condition for Suwannee alligator snapping turtle considered the current abundance, current threats, and conservation actions as in the context of what is known about its historical range. In order to determine species-specific population and habitat factors along with threats and conservation actions acting on the species, expert elicitation was used in the absence of available related information. Species experts independently provided relevant information related to the species for which each were familiar. To describe Suwannee alligator snapping turtle's resiliency, redundancy, and representation for the current condition analysis, we assessed the species as a single population, because there is evidence that the turtles may move between the Suwannee

and Santa Fe Rivers. The entire species is estimated to have an abundance of 2,000 turtles across its entire range in Georgia and Florida (Service 2020, p. 25).

The current major threats acting on the Suwannee alligator snapping turtle include fishing bycatch, illegal harvest (poaching), nest predation, habitat alteration, and climate change. Other stressors acting on the species include disease, insect parasitism, and contaminants. The species is listed in Florida and Georgia as threatened on each State's threatened and endangered species list. When evaluating range expansion or constriction, recent surveys have confirmed minimal change in the known, limited historical range.

The resiliency of the single Suwannee alligator snapping turtle population is described according to its abundance, threats, and range expansion or contraction. Current abundance was the assessment for current resilience, along with information about current threats, conservation actions, and distribution serving as auxiliary information about the causes and effects of current versus historical abundances. There is little information with which to make rigorous comparisons between current and historical abundances; however, population depletions historically occurred for consumption and cumulated through the 1970s when turtles and turtle meat were exported regionally for commercial use. Information about the magnitude of the changes in abundance over time come from anecdotal observations by trappers (Pritchard 1989, pp. 74, 76, 80, 83). The historical large-scale removal of large, reproductive turtles from the population for commercial harvest continue to affect the species and its' ability to rebound. Therefore, as a result of the historical and ongoing threats, as described above, the species currently (resiliency) encompasses a single population with an estimated abundance of 2,000 turtles across most of its historical range in Georgia and Florida. Additional information regarding current condition descriptions are included in the SSA report (Service 2020, pp. 26–28).

The home range for Suwannee alligator snapping turtles has been reported between 243 m and 2,013 m (Thomas 2014, pp. 41–42). Turtles are not confined to any part of their range as long as there are no physical barriers; while this species is aquatic with the exception of nesting, these turtles are capable of moving across land if necessary as conditions become unsuitable or resources are diminished. When describing the species' representation, for the purposes of the SSA in evaluating the species' current and future viability, the species consisted of a single representative unit. The best available science regarding the species indicates there is no genetic or environmental condition variation across the species' range that would allow for delineating additional representative units. Representation, which measures a species' adaptive potential in the face of natural or anthropogenic changes, is inherently low for this species because the best available information shows it lacks significant genetic variation within its single population. In addition, there are no physical barriers inhibiting movement within the range that bring about genetic divergence over time.

The Suwannee alligator snapping turtle's redundancy is likewise limited to the single population, with an estimated abundance of 2,000 turtles, across its historical range. Redundancy is related to a species' response to a catastrophic event. While there is only a single population, it is widely distributed across the historical range; therefore, the chance of a catastrophic event affecting the entire species is very low.

In summary, the overall current condition of the species' viability is affected by the residual effects of historical overharvest, historical and ongoing impacts from incidental limb line/bush hook and recreational fishing bycatch and/or hook ingestion, illegal harvest, habitat alteration, nest predation, and the species' life history (i.e., low annual recruitment and delayed sexual maturity). Because of these threats, and particularly the legacy effects of historical harvest, the overall current condition is a single population with an estimated abundance of 2,000 turtles across most of its

historical range. The species' resiliency is likely lower than it was historically as a result of the loss of reproductive females and the species' life history (long-lived, late age to sexual maturity, low intrinsic growth rate). However, the species was not well studied historically, so there is little information (anecdotal observations) from with which to make comparisons between historical and current abundance estimates. Redundancy and representation are limited and low, respectively, since the species is considered a single population with little genetic variability or no physical barriers to movement.

Future Condition

The future condition of Suwannee alligator snapping turtle is described in detail in the SSA report (Service 2020, pp. 30–45). When evaluating the species' future viability, we considered the current condition of the species and the threats acting on the species to develop a model to determine future trends of species' estimated abundance. We applied six plausible scenarios that factored in the estimated abundance and threats acting on the species to project the future resiliency of the species (Table 1). Three scenarios consider conservation actions to be applied, while the remaining three scenarios project conditions with no conservation actions.

To assess future conditions and the viability of the Suwannee alligator snapping turtle, we constructed a female-only, stage-structured matrix population model to project the population dynamics over 50 years. Species experts identified five primary potential threats that were likely to reduce stage-specific survival probabilities: commercial fishing bycatch (includes entanglement, drowning, or otherwise dying from interaction with fishing gear; influenced hatchling, juvenile, and adult survival), recreational fishing bycatch (has the same impacts as commercial fishing bycatch; influenced juvenile and adult survival), hook ingestion (surviving a bycatch event but enduring the lingering effects of an ingested hook; influenced juvenile and adult survival), illegal collection (i.e., poaching; influenced hatchling, juvenile, and adult survival), and subsidized nest

predators (influenced nest survival). The subsidized nest predator threat reflects additional nest depredation beyond what would be expected from common nest mesopredators (e.g., raccoons and opossums), with fire ants (*Solenopsis* spp.) being the primary nest predator.

We used the best available information from the literature to parameterize the population matrix and elicited data from species experts to quantify stage-specific initial abundance, the spatial extent of threats, and threat-specific percent reductions to survival. To account for potential uncertainty in the effects of each threat, the six future scenarios were divided along a spectrum: threat-induced reductions to survival were decreased by 25 percent, were unaltered, or were increased by 25 percent. To simulate conservation actions, the spatial extent of each threat was either left the same or reduced by 25 percent (Table 1). We used a fully stochastic projection model that accounted for uncertainty in demographic parameters to predict future conditions of the Suwannee alligator snapping turtle units under the six different scenarios. We then used the model output to predict the probability of extinction and quasi-extinction. Quasi-extinction is defined here as the probability that the Suwannee alligator snapping turtle population declined to less than 5 percent of the abundance in year one of the simulation (e.g., starting abundance).

Table 1. Description of six future scenarios modeled for the Suwannee alligator snapping turtle's single population. Scenario names are given in quotation marks.

	Conservation Absent	**Conservation Present**
Decreased Threat Magnitude	***"Decreased Threats"*** Impact of threats: *Reduced 25%* Spatial extent of threats: *Expert-elicited*	***"Decreased Threats + "*** Impact of threats: *Reduced 25%* Spatial extent of threats: *Reduced 25%*
Expert-Elicited Threat Magnitude	***"Expert-Elicited Threats"*** Impact of threats: *Expert-elicited* Spatial extent of threats: *Expert-elicited*	***"Expert-Elicited Threats + "*** Impact of threats: *Expert-elicited* Spatial extent of threats: *Reduced 25%*
Increased Threat Magnitude	***"Increased Threats"*** Impact of threats: *Reduced 25%* Spatial extent of threats: *Expert-elicited*	***"Increased Threats + "*** Impact of threats: *Increased 25%* Spatial extent of threats: *Reduced 25%*

Suwannee alligator snapping turtle abundance was predicted to decline over the next 50 years in all six scenarios. The single population's resiliency measure also declined as abundance declined. Given the high uncertainties parameterized in the model, the species does not have a high likelihood of extinction in the basin within 50 years. However, quasi-extinction is very likely to occur in both decreased threats scenarios (after an average of 35 to 40 years), very likely to occur in both expert-elicited scenarios (after an average of 28 to 35 years), and virtually certain in both increased threats scenarios (after an average of 2 to 30 years). Resiliency continues to decline despite conservation action implementation and prohibitions on harvest. Representation and redundancy were already inherently low and limited, respectively, with a single population representing the species with little to no genetic variation or physical barriers to movement, and this limited redundancy and low representation did not change under any of the scenarios.

We note that, by using the SSA framework to guide our analysis of the scientific information documented in the SSA report, we have not only analyzed individual effects on the species, but we have also analyzed their potential cumulative effects. We incorporate the cumulative effects into our SSA analysis when we characterize the current and future condition of the species. To assess the current and future condition of the species, we undertake an iterative analysis that encompasses and incorporates the threats individually and then accumulates and evaluates the effects of all the factors that may be influencing the species, including threats and conservation efforts. Because the SSA framework considers not just the presence of the factors, but to what degree they collectively influence risk to the entire species, our assessment integrates the cumulative effects of the factors and replaces a standalone cumulative effects analysis.

Determination of Suwannee Alligator Snapping Turtle Status

Section 4 of the Act (16 U.S.C. 1533) and its implementing regulations (50 CFR part 424) set forth the procedures for determining whether a species meets the definition of an endangered species or a threatened species. The Act defines an endangered species as a species that is "in danger of extinction throughout all or a significant portion of its range," and a threatened species as a species that is "likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." The Act requires that we determine whether a species meets the definition of endangered species or threatened species because of any of the following factors: (A) The present or threatened destruction, modification, or curtailment of its habitat or range; (B) Overutilization for commercial, recreational, scientific, or educational purposes; (C) Disease or predation; (D) The inadequacy of existing regulatory mechanisms; or (E) Other natural or manmade factors affecting its continued existence.

Status Throughout All of Its Range

After evaluating threats to the species and assessing the cumulative effect of the threats under the section 4(a)(1) factors, we found that the species current condition encompasses a single population with an estimated abundance of 2,000 turtles (resiliency) distributed across most of its historical range (redundancy), and therefore, this species is not currently on the brink of extinction. Historical activities that included removal of turtles for consumption through recreational and commercial harvest continue to suppress the viability of the species despite current harvest prohibitions.

There are currently about 2,000 individuals distributed throughout the entire species' range across southern Georgia and northern Florida in the Suwannee River basin (Service 2020, p. 27). Surveys indicate an overall declining population trend; however, recruitment is occurring, and juvenile to adult ratios are consistent with general predictions for long-lived turtles (Folt et al. 2016, p. 29).

The threats that are acting on the species contribute to a decline in the species' viability; however, the species currently occupies much of its historical range. Given the species' longevity, the likely impacts of existing threats, and the current population size, the species is not currently in danger of extinction throughout its range.

Due to the delayed age of sexual maturity and a generation time of about 28 years, the species is slow to recover from historical harvest pressures that reduced the species' viability. As the genus was recently split, the specific impact of large-scale harvest on Suwannee alligator snapping turtles is unknown; however, for *Macrochelys temminckii*, 22 years after *M. temminckii* commercial harvest ended in Georgia, surveys conducted during 2014 and 2015 in Georgia's Flint River revealed no significant change in abundance since 1989 (King et al. 2016, entire). We expect commercial harvest had a similar impact on the Suwannee alligator snapping turtle as it did on the alligator snapping turtle. Thus, despite prohibition of legal harvest of the Suwannee alligator snapping turtle in Georgia and Florida, the Suwannee alligator snapping turtle population will similarly be slow to recover.

The species has experienced severe depletion in the past when the species was heavily harvested, primarily for consumption, prior to prohibitions. This past large-scale removal of large, adult turtles continues to affect the current demographics because the species has a relatively long lifespan, late age to maturity, and low fecundity with production of a single clutch every 1–2 years. The current recruitment rate has declined because of past commercial harvest practices, which caused the large-scale loss of adult females that have the highest reproductive potential; however, successful reproduction is occurring. The species is not currently in danger of extinction due to commercial harvest; however, the species' resiliency is lower than it was historically as a result of the loss of reproductive females, low juvenile survival, and the species' life-history traits (long-lived, late age to sexual maturity, low intrinsic growth rate). The current estimated

population size of 2,000 turtles provides sufficient contribution to the species' current viability through successful reproduction, albeit at a lower recruitment rate than historically, that the species is currently not in danger of extinction. Thus, after assessing the best available information, we conclude that Suwannee alligator snapping turtle is not currently in danger of extinction throughout all of its range, and endangered species status is not appropriate.

When evaluating the future viability of the species, we found that the threats currently acting on the species are expected to continue across its range into the future, resulting in greater reduction of the number and distribution of reproductive individuals. This species is highly dependent upon adult female survival to maintain viable populations. Existing and ongoing threats affecting adult female survival are projected to reduce recruitment to an extent that the single population will continue to decline in the foreseeable future. While there is uncertainty regarding the rate at which population declines will occur, these threats are projected to drive the species towards extinction unless reduced.

The best available information shows that the species' viability is expected to decline with the projected quasi-extinction projected to occur within the next 50 years (Service 2020, p. 41). Based on modeling results, which addressed uncertainty regarding the extent and severity of threats, resiliency is expected to decline dramatically under all scenarios. Time to quasi-extinction for the population in the models was less than 50 years for all scenarios. Regardless of whether the projected timeframe to quasi-extinction is fully accurate, the projected loss of resiliency across the range of the species will place the Suwannee alligator snapping turtle at risk of extinction across all of its range due to the inability of this species to effectively reproduce and maintain viable populations in the coming decades. Based on this information, we determine the appropriate timeframe for assessing whether this species is likely to become in danger of extinction in the

foreseeable future is 50 years. Additional information regarding the model and future scenarios is available in the SSA Report, Future Conditions section (Service 2020, pp. 38–44).

Recreational harvest of *Macrochelys* spp. was prohibited in Georgia and Florida, in 1992 and 2009 respectively, and both alligator snapping turtle species were listed as threatened under State law in both Georgia (1992) and Florida (2018). Nest predation and illegal collection are the largest unmitigated threats at this point, although these only affect approximately 10 percent and 30 percent of the range respectively according to expert elicitation. These threats based on the projection of future conditions cause about a 20-year shift in the species' resiliency, indicating these factors will act faster on the generations in the foreseeable future.

There are additional environmental stressors within the Suwannee basin that include development and future climate change impacts (elevated nest temperatures, increased flooding, increased water withdrawals, etc.). Development may increase runoff of contaminants and erosion contributing to degradation of the water quality and suitable aquatic and nesting habitats. These secondary environmental stressors, such as disease, insect parasites, and contaminants from urban and agricultural runoff, would have compounding impacts that would further reduce the likelihood of continued existence of the species in the foreseeable future.

Despite the implementation of the conservation actions described in the **Regulatory Mechanisms** and **Conservation Measures** sections of this proposed rule, the lag in the species' response to historical over-harvesting indicates other factors may be acting on the species or additional conservation actions are needed. The future conditions projections, which include three conservation-based scenarios, based on the female-only matrix population model indicate a 95 percent decline in 50 years and quasi-extinction in approximately 40 years under the most optimistic scenario.

The model includes two conservation actions (release of 30 head-started juveniles per year or opportunistic release of 12 adults per year, each for 10 years). However, captive-rearing and release practices, including head-start programs that raise hatchlings through the first couple of years prior to release, have yet to be applied to Suwannee alligator snapping turtles to augment the species within its range. Therefore, given the future projections and threats projected to act on the Suwannee alligator snapping turtle, the species is likely to become in danger of extinction within the foreseeable future, even when considering the most optimistic scenario that includes conservation actions.

Thus, after assessing the best available information, we conclude that Suwannee alligator snapping turtle is likely to become in danger of extinction in the foreseeable future throughout all of its range.

Status Throughout a Significant Portion of Its Range

Under the Act and our implementing regulations, a species may warrant listing if it is in danger of extinction or likely to become so in the foreseeable future throughout all or a significant portion of its range. The court in *Center for Biological Diversity* v. *Everson*, 2020 WL 437289 (D.D.C. Jan. 28, 2020) (*Center for Biological Diversity*), vacated the aspect of the Final Policy on Interpretation of the Phrase "Significant Portion of Its Range" in the Endangered Species Act's Definitions of "Endangered Species" and "Threatened Species" (79 FR 37578; July 1, 2014) that provided that the Service does not undertake an analysis of significant portions of a species' range if the species warrants listing as threatened throughout all of its range. Therefore, we proceed to evaluating whether the species is endangered in a significant portion of its range—that is, whether there is any portion of the species' range for which both (1) the portion is significant; and (2) the species is in danger of extinction in that portion. Depending on the case, it might be more efficient for us to address the "significance" question or the "status" question first. We can choose to address either question first. Regardless of which question we

address first, if we reach a negative answer with respect to the first question that we address, we do not need to evaluate the other question for that portion of the species' range.

Following the court's holding in *Center for Biological Diversity*, we now consider whether there are any significant portions of the species' range where the species is in danger of extinction now (i.e., endangered). In undertaking this analysis for Suwannee alligator snapping turtle, we choose to address the status question first. We consider information pertaining to the geographic distribution of both the species and the threats that the species faces to identify any portions of the range where the species is endangered.

For Suwannee alligator snapping turtle, we considered whether the threats are geographically concentrated in any portion of the species' range at a biologically meaningful scale. We examined the following threats: illegal harvest (poaching), bycatch, habitat alteration, nest predation, and climate change. We also considered the cumulative effects acting on the species with additional stressors such as disease, parasites, and contaminants.

In the current condition analysis, as described in the SSA report, expert elicitation values were provided to better understand the occurrence of the threats and the collective amount of the species' range affected (Service 2020, p. 27). The impact of the threats was estimated as a proxy for the magnitude of the threats in terms of the amount of the entire species' range affected; these estimates do not indicate the spatial distribution of the threats. Rather, they estimate the percentages of the total amount of the species' range affected by each threat noted. Bycatch from incidental hooking affects 30–75 percent of the species' range, illegal harvest affects 20–55 percent of the species' range, and nest predation affects 5–10 percent of the species' range; however, the impact of each threat is spread out and not concentrated. Therefore, we found no concentration of threats in any

portion of the Suwannee alligator snapping turtle's range at a biologically meaningful scale. Thus, there are no portions of the species' range where the species has a different status from its rangewide status. Therefore, no portion of the species' range provides a basis for determining that the species is in danger of extinction in a significant portion of its range, and we determine that the species is likely to become in danger of extinction within the foreseeable future throughout all of its range. This finding is consistent with the courts' holdings in *Desert Survivors* v. *Department of the Interior*, No. 16–cv–01165–JCS, 2018 WL 4053447 (N.D. Cal. Aug. 24, 2018), and *Center for Biological Diversity* v. *Jewell*, 248 F. Supp. 3d, 946, 959 (D. Ariz. 2017).

Determination of Status

Our review of the best scientific and commercial data available indicates that the Suwannee alligator snapping turtle meets the definition of a threatened species. Therefore, we propose to list the Suwannee alligator snapping turtle as a threatened species in accordance with sections 3(20) and 4(a)(1) of the Act.

Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened species under the Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain practices. Recognition through listing results in public awareness and conservation by Federal, State, Tribal, and local agencies, private organizations, and individuals. The Act encourages cooperation with the States and other countries and calls for recovery actions to be carried out for listed species. The protection required by Federal agencies and the prohibitions against certain activities are discussed, in part, below.

The primary purpose of the Act is the conservation of endangered and threatened species and the ecosystems upon which they depend. The goal of such conservation efforts is the recovery of these listed species, so that they no longer need the protective

measures of the Act. Subsection 4(f) of the Act calls for the Service to develop and implement recovery plans for the conservation of endangered and threatened species. The recovery planning process involves the identification of actions that are necessary to halt or reverse the species' decline by addressing the threats to its survival and recovery. The goal of this process is to restore listed species to a point where they are secure, self-sustaining, and functioning components of their ecosystems.

Recovery planning consists of preparing draft and final recovery plans, beginning with the development of a recovery outline and making it available to the public within 30 days of a final listing determination. The recovery outline guides the immediate implementation of urgent recovery actions and describes the process to be used to develop a recovery plan. The plan may be revised to address continuing or new threats to the species as new substantive information becomes available. The recovery plan also identifies recovery criteria for review of when a species may be ready for reclassification from endangered to threatened ("downlisting") or removal from protected status ("delisting"), and methods for monitoring recovery progress. Recovery plans also establish a framework for agencies to coordinate their recovery efforts and provide estimates of the cost of implementing recovery tasks. Recovery teams (composed of species experts, Federal and State agencies, nongovernmental organizations, and stakeholders) are often established to develop recovery plans. When completed, the recovery outline, draft recovery plan, and the final recovery plan for Suwannee alligator snapping turtle will be available on our website (*http://www.fws.gov/endangered*), or from our Panama City Ecological Services Field Office (see **FOR FURTHER INFORMATION CONTACT**).

Implementation of recovery actions generally requires the participation of a broad range of partners, including other Federal agencies, States, Tribes, nongovernmental organizations, businesses, and private landowners. Examples of recovery actions include

habitat restoration (e.g., restoration of native vegetation), research, protective regulations, adjustments to fishing techniques to reduce bycatch, captive propagation and reintroduction, and outreach and education. The recovery of many listed species cannot be accomplished solely on Federal lands because their range may occur primarily or solely on non-Federal lands. Achieving recovery of these species requires cooperative conservation efforts on private, State, and Tribal lands.

If Suwannee alligator snapping turtle is listed, funding for recovery actions will be available from a variety of sources, including Federal budgets, State programs, and cost share grants for non-Federal landowners, the academic community, and nongovernmental organizations. In addition, pursuant to section 6 of the Act, the States of Florida and Georgia would be eligible for Federal funds to implement management actions that promote the protection or recovery of the Suwannee alligator snapping turtle. Information on our grant programs that are available to aid species recovery can be found at: *http://www.fws.gov/grants*.

Although the Suwannee alligator snapping turtle is only proposed for listing under the Act at this time, please let us know if you are interested in participating in recovery efforts for the species. Additionally, we invite you to submit any new information on the species whenever it becomes available and any information you may have for recovery planning purposes (see **FOR FURTHER INFORMATION CONTACT**).

Section 7(a) of the Act requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as an endangered or threatened species and with respect to its critical habitat, if any is designated. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR part 402. Section 7(a)(4) of the Act requires Federal agencies to confer with the Service on any action that is likely to jeopardize the continued existence of a species proposed for listing or result in destruction or adverse modification of proposed critical habitat. If a species is listed

subsequently, section 7(a)(2) of the Act requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of the species or destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency must enter into consultation with the Service.

Federal agency actions within the species' habitat that may require conference or consultation or both as described in the preceding paragraph may include but are not limited to management and any other landscape-altering activities on Federal lands administered by the U.S. Fish and Wildlife Service, U.S. Forest Service, and Department of Defense (Moody Air Force Base); issuance of section 404 Clean Water Act permits by the U.S. Army Corps of Engineers; construction and maintenance of roads or highways by the Federal Highway Administration; and dams that produce hydropower by the Federal Energy Regulatory Commission.

It is our policy, as published in the *Federal Register* on July 1, 1994 (59 FR 34272), to identify to the maximum extent practicable at the time a species is listed, those activities that would or would not constitute a violation of section 9 of the Act. The intent of this policy is to increase public awareness of the effect of a proposed listing on proposed and ongoing activities within the range of the species proposed for listing. The discussion below regarding protective regulations under section 4(d) complies with our policy.

II. Proposed Rule Issued Under Section 4(d) of the Act

Background

Section 4(d) of the Act contains two sentences. The first sentence states in part that the Secretary shall issue such regulations as he deems necessary and advisable to provide for the conservation of species listed as threatened. The U.S. Supreme Court has noted that statutory language like "necessary and advisable" demonstrates a large degree

of deference to the agency (see *Webster* v. *Doe*, 486 U.S. 592 (1988)). Conservation is defined in the Act to mean the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to the Act are no longer necessary. Additionally, the second sentence of section 4(d) of the Act states in part that the Secretary may by regulation prohibit with respect to any threatened species any act prohibited under section 9(a)(1), in the case of fish or wildlife, or section 9(a)(2), in the case of plants. Thus, the combination of the two sentences of section 4(d) provides the Secretary with wide latitude of discretion to select and promulgate appropriate regulations tailored to the specific conservation needs of the threatened species. The second sentence grants particularly broad discretion to the Service when adopting the prohibitions under section 9.

The courts have recognized the extent of the Secretary's discretion under this standard to develop rules that are appropriate for the conservation of a species. For example, courts have upheld rules developed under section 4(d) as a valid exercise of agency authority where they prohibited take of threatened wildlife or include a limited taking prohibition (see *Alsea Valley Alliance* v. *Lautenbacher*, 2007 U.S. Dist. Lexis 60203 (D. Or. 2007); *Washington Environmental Council* v. *National Marine Fisheries Service*, 2002 U.S. Dist. Lexis 5432 (W.D. Wash. 2002)). Courts have also upheld 4(d) rules that do not address all of the threats a species faces (*see State of Louisiana* v. *Verity*, 853 F.2d 322 (5th Cir. 1988)). As noted in the legislative history when the Act was initially enacted, "once an animal is on the threatened list, the Secretary has an almost infinite number of options available to him with regard to the permitted activities for those species. He may, for example, permit taking, but not importation of such species, or he may choose to forbid both taking and importation but allow the transportation of such species" (H.R. Rep. No. 412, 93rd Cong., 1st Sess. 1973).

Exercising this authority under section 4(d), we have developed a proposed rule that is designed to address the Suwannee alligator snapping turtle's specific threats and conservation needs. Although the statute does not require us to make a "necessary and advisable" finding with respect to the adoption of specific prohibitions under section 9, we find that this proposed rule as a whole satisfies the requirement in section 4(d) of the Act to issue regulations deemed necessary and advisable to provide for the conservation of the Suwannee alligator snapping turtle. As discussed under **Summary of Biological Status and Threats**, we have concluded that the Suwannee alligator snapping turtle is likely to become in danger of extinction within the foreseeable future primarily due to include illegal harvest (poaching), nest predation, habitat alteration, and hook ingestion and entanglement due to bycatch associated with recreational fishing of some species of freshwater fish.

The provisions of this proposed 4(d) rule would promote conservation of the Suwannee alligator snapping turtle by discouraging illegal harvest by prohibiting take and implementing use of best management practices for activities in freshwater wetlands and riparian areas to minimize habitat alteration to the maximum extent practicable. The provisions of this proposed rule include some of the many tools that we would use to promote the conservation of Suwannee alligator snapping turtle. This proposed 4(d) rule would apply only if and when we make final the listing of Suwannee alligator snapping turtle as a threatened species. For purposes of this proposed rule, a captive Suwannee alligator snapping turtle, whether alive or dead, and any part or product, includes only those in captivity at the time of the listing or any turtle that is hatched in captivity.

Provisions of the Proposed 4(d) Rule

Based on the provisions of this 4(d) rule, which provide for the conservation of the species, the following actions would be prohibited across the range of the species: importing or exporting wild-caught individuals; take (as set forth at 50 CFR 17.21(c)(1)

with exceptions as discussed below); possession, sale, delivery, carrying, transporting, or shipping of unlawfully taken specimens from any source; delivering, receiving, transporting, or shipping wild-caught individuals in interstate or foreign commerce in the course of commercial activity; and selling or offering for sale wild-caught or farm brood stock individuals in interstate or foreign commerce. We also include several exceptions to these prohibitions, which along with the prohibitions are set forth under **Proposed Regulation Promulgation**, below.

Under the Act, "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Some of these provisions have been further defined in regulation at 50 CFR 17.3. Take can result knowingly or otherwise, by direct and indirect impacts, intentionally or incidentally. This proposed 4(d) rule would provide for the conservation of Suwannee alligator snapping turtle by prohibiting intentional and incidental take, except as otherwise authorized or permitted. Prohibiting take of the species resulting from activities, including, but not limited to: illegal harvest (poaching), hook ingestions and entanglement due to bycatch associated with irresponsible commercial and recreational fishing of some species of freshwater fish (particularly as a result of unlawful activities and/or abandonment of equipment), and habitat alteration, will provide for the conservation of the species. The inadequacy of regulatory mechanisms also influences the viability of the species. Regulating these activities under a 4(d) rule would prevent continued declines in population abundance and decrease synergistic, negative effects from other threats; this regulatory approach will provide for the conservation of the species by improving resiliency of the single population.

Prohibitions

Due to the life-history characteristics of Suwannee alligator snapping turtle, specifically delayed maturity, long generation times, and relatively low reproductive

output, this species cannot sustain significant collection from the wild, especially of adult females (Reed et al. 2002, pp. 8–12). An adult female harvest rate of more than 2 percent per year is considered unsustainable, and harvest of this magnitude or greater will result in significant local population declines (Reed et al. 2002, p. 9). Although both Florida and Georgia prohibit commercial and recreational harvest of Suwannee alligator snapping turtles, due to the species' demography, the overall population has not recovered from prior extensive loss of individuals due to past over-exploitation. Other protection and conservation measures vary between States.

Habitat alteration is also a concern for the Suwannee alligator snapping turtle, as the species is endemic to the Suwannee River basin and its river ecosystems, including tributary waterbodies and associated wetland habitats (e.g., swamps, lakes, reservoirs, etc.), where structure (e.g., tree root masses, stumps, submerged trees, etc.) and a high percentage of canopy cover is more often selected over open water (Howey and Dinkelacker 2009, p. 589). Suwannee alligator snapping turtles spend the majority of their time in aquatic habitat; overland movements are generally restricted to nesting females and juveniles moving from the nest to water (Reed at al. 2002, p. 5). The primary causes for habitat alteration include actions that change hydrologic conditions to the extent that dispersal and genetic interchange are impeded.

Some examples of activities that may alter the habitat include dredging, deadhead logging, clearing and snagging, removal of riparian cover, channelization, in-stream activities that result in stream bank erosion and siltation (e.g., stream crossings, bridge replacements, flood control structures, etc.), and changes in land use within the riparian zone of waterbodies (e.g., clearing land for agriculture). Deadhead logs and fallen riparian woody debris provide refugia during low-water periods (Enge et al. 2014, p. 40), resting areas for all life stages (Ewert et al. 2006, p. 62), and important feeding areas for hatchlings and juveniles. The species' habitat needs concentrate around a freshwater

ecosystem that supplies both shallower water for hatchlings and juveniles and deeper water for adults, with associated forested habitat that is free from inundation for nesting and provides structure within the waterbody.

Based on the provisions of this proposed 4(d) rule, the following actions would be prohibited across the range of the species: importing or exporting wild-caught individuals; take (as set forth at 50 CFR 17.21(c)(1) with exceptions); possession, sale, delivery, carrying, transporting, or shipping of unlawfully taken specimens from any source; delivering, receiving, transporting, or shipping wild-caught individuals in interstate or foreign commerce in the course of commercial activity; and selling or offering for sale wild-caught or first generation progeny of wild-caught individuals (currently in captivity) in interstate or foreign commerce.

Exceptions to the Prohibitions

We are proposing several exceptions to the prohibitions: take incidental to any otherwise lawful activity caused by Federal and State captive breeding programs to support conservation efforts for wild populations with permitted, brood stock; construction, operation, and maintenance activities; pesticide and herbicide use; and silviculture practices and forestry activities that implement industry and/or State-approved best management practices accordingly; and maintenance dredging that affects previously disturbed portions of the maintained channel..

Captive Breeding for Conservation—The Service recognizes that captive breeding could provide an avenue for species conservation (i.e., captive rearing, head-starting, and reintroductions) by supplementing depleted populations. This includes head-starting programs, where turtles are bred and raised beyond the hatchling phase to improve survival, then released into the wild. Captive rearing for the purposes of head-starting hatchlings to release back into the wild can help mitigate losses from nest predation and parasitic insects, as well as provide individuals for reintroduction into areas

with depleted turtle numbers. Such activities can help bolster population numbers by improving overall juvenile survival and may also increase genetic diversity. When brood stock is legally acquired and permitted, with proper pedigree management and disease surveillance, Federal and State agencies can implement head-start programs without putting undue stress on the wild population.

All captive production programs for the purpose of reintroducing Suwannee alligator snapping turtles to the wild must also develop a Captive Propagation Plan in accordance with the Service's Captive Propagation Policy (65 FR 56916, September 20, 2000). In addition, captive breeding for conservation purposes should apply kinship-based pedigree management to avoid consequences of inbreeding or inadvertently introducing turtles with deleterious alleles into the wild population. Thus, incidental take associated with Federal and State captive-breeding programs to support conservation efforts for wild populations (i.e., head-starting) would be excepted from the prohibitions when conducted using permitted brood stock and following approved turtle husbandry practices in accordance with State regulations and U.S. Fish and Wildlife Service policy

Best Management Practices for Implementing Actions That Occur Near- or In-Stream—Implementing best management practices to avoid and/or minimize the effects of habitat alterations in areas that support Suwannee alligator snapping turtles would provide additional measures for conserving the species by reducing direct and indirect effects to the species. We considered that certain construction, forestry, and pesticide/herbicide management activities that occur near- and in-stream may result in removal of riparian cover or forested habitat, changes in land use within the riparian zone, or stream bank erosion and/or siltation. These actions and activities may have some minimal level of take of the Suwannee alligator snapping turtle, but any such take is expected to be rare and insignificant and is not expected to negatively impact the species' conservation and recovery efforts. Rather, we expect they would have a net

beneficial effect on the species. Construction, operation, and maintenance activities such as installation of stream crossings, replacement of existing in-stream structures (e.g., bridges, culverts, water control structures, boat launches, etc.), operation and maintenance of existing flood control features (or other existing structures), and directional boring, when implemented with industry and State-approved standard best management practices will have minimal impacts to Suwannee alligator snapping turtles and their habitat.. In addition, silviculture practices and forestry management activities that follow State-approved best management practices to protect water and sediment quality and stream and riparian habitat will not impair the species' conservation. Lastly, invasive species removal activities, particularly through pesticide and herbicide application, are considered beneficial to the native ecosystem and are likely to improve habitat conditions for the species; therefore, pesticide and herbicide application that follow the chemical label and appropriate application rates would not impair the species' conservation. These activities should have minimal impacts to Suwannee alligator snapping turtles if industry and/or State-approved best management practices are implemented. These activities and management practices should be carried out in accordance with any existing regulations, permit and label requirements, and best management practices to avoid or minimize impacts to the species and its habitat.

Thus, under this proposed 4(d) rule, incidental take associated with the following activities are excepted:

(1) Construction, operation, and maintenance activities that occur near- and in-stream, such as installation of stream crossings, replacement of existing in-stream structures (e.g., bridges, culverts, water control structures, boat launches, etc.), operation and maintenance of existing flood control features (or other existing structures), and directional boring, when implemented with industry and/or State-approved best management practices for construction,

(2) Pesticide and herbicide application that follow the chemical label and appropriate application rates, and,

(3) Silviculture practices and forest management activities that use State-approved best management practices to protect water and sediment quality and stream and riparian habitat.

Maintenance Dredging of Navigable Waterways—We considered that maintenance dredging activities generally disturb the same area of the waterbody in each cycle; thus, there is less likelihood that suitable turtle habitat (e.g., submerged logs, cover, etc.) occurs in the maintained portion of the channel. Accordingly, incidental take associated with maintenance dredging activities that occur within the previously disturbed portion of the navigable waterway is excepted from the prohibitions as long as they do not encroach upon suitable turtle habitat outside the maintained portion of the channel and provide for the conservation of the species.

Tribal employees—When acting in the course of their official duties, Tribal employees designated by the Tribe for such purposes, working in the range of the species, may take alligator snapping turtle for the following purposes:

(A) Aiding or euthanizing sick or injured alligator snapping turtles;

(B) Disposing of a dead specimen; and

(C) Salvaging a dead specimen that may be used for scientific study.

Such take must be reported to the local Service field office within 72 hours, and specimens may be disposed of only in accordance with directions from the Service.

State-licensed wildlife rehabilitation facilities—When acting in the course of their official duties, State licensed wildlife rehabilitation facilities may take alligator snapping turtle for the purpose of aiding or euthanizing sick or injured alligator snapping turtles. Such take must be reported to the local Service field office within 72 hours, and

specimens may be retained and disposed of only in accordance with directions from the Service.

We may issue permits to carry out otherwise prohibited activities, including those described above, involving threatened wildlife under certain circumstances. Regulations governing permits are codified at 50 CFR 17.32. With regard to threatened wildlife, a permit may be issued for the following purposes: scientific purposes, to enhance propagation or survival, for economic hardship, for zoological exhibition, for educational purposes, for incidental taking, or for special purposes consistent with the purposes of the Act. There are also certain statutory exemptions from the prohibitions, which are found in sections 9 and 10 of the Act.

We recognize the special and unique relationship with our State natural resource agency partners in contributing to conservation of listed species. State agencies often possess scientific data and valuable expertise on the status and distribution of endangered, threatened, and candidate species of wildlife and plants. State agencies, because of their authorities and their close working relationships with local governments and landowners, are in a unique position to assist the Service in implementing all aspects of the Act. In this regard, section 6 of the Act provides that the Service shall cooperate to the maximum extent practicable with the States in carrying out programs authorized by the Act. Therefore, any qualified employee or agent of a State conservation agency that is a party to a cooperative agreement with the Service in accordance with section 6(c) of the Act, who is designated by his or her agency for such purposes, would be able to conduct activities designed to conserve Suwannee alligator snapping turtle that may result in otherwise prohibited take without additional authorization.

We are also considering an exception for incidental take of the Suwannee alligator snapping turtle associated with bycatch from otherwise lawful recreational and commercial fishing. We note that Suwannee alligator snapping turtle bycatch from

recreational and commercial fishing with hoop nets and trot lines (and varieties including jug lines, bush hooks, and limb lines) is a concern for the conservation of the species due to its effects on species abundance, particularly in light of the species' life-history traits. However, there is limited information on the magnitude, temporal, and spatial distribution of this threat across the species' range. It is important to ensure that fishing activities take into consideration the need to prevent accidental turtle deaths from the use of such fishing gear, and we will work with the States to identify measures and revisions to existing regulations to reduce bycatch of Suwannee alligator snapping turtle. If we conclude that the measures and/or revisions to existing regulations would provide for the conservation of the species, we may include a provision in the final 4(d) rule excepting incidental take associated with legal recreational or commercial fishing activities for other targeted species, in compliance with State regulations, if such an exception is appropriate in light of comments and new information received. Also, in order to better understand threats associated with bycatch related to otherwise lawful fishing, we are considering adding a provision to the 4(d) rule that will require all injured or dead Suwannee alligator snapping turtles resulting from bycatch from recreational or commercial fishing (for other targeted species) in accordance with State regulations be reported to the Service within 72 hours. We specifically request comments on these provisions we are considering.

Future conservation efforts may be appropriate through advances in fishing gear technology that implement effective turtle escape or exclusion devices for hoop nets or modified trot lines (including limb lines and jug lines) that would reduce or eliminate turtle bycatch. Thus, we are requesting information from the public, especially the commercial and recreational fishing communities, to design a turtle escape or exclusion device and modified trot line techniques that would effectively eliminate or significantly reduce bycatch of alligator snapping turtles from recreational fishing.

Nothing in this proposed 4(d) rule would change in any way the recovery planning provisions of section 4(f) of the Act, the consultation requirements under section 7 of the Act, or the ability of the Service to enter into partnerships for the management and protection of the Suwannee alligator snapping turtle. However, interagency cooperation may be further streamlined through planned programmatic consultations for the species between Federal agencies and the Service, where appropriate. We ask the public, particularly State agencies and other interested stakeholders that may be affected by the proposed 4(d) rule, to provide comments and suggestions regarding additional guidance and methods that the Service could provide or use, respectively, to streamline the implementation of this proposed 4(d) rule (see **Information Requested**, above).

Since we are proposing a threatened status for the Suwannee alligator snapping turtle and this proposed rule outlines the protections in section 9(a)(1) of the Act that we are extending to this species pursuant to section 4(d), we are identifying those activities that would or would not constitute a violation of either section 9(a)(1), and accordingly, this proposed 4(d) rule. Based on the best available information, at this time, the excepted activities as discussed above would not be considered to result in a violation this 4(d) rule. On the other hand, based on the best available information, if this proposed rule is adopted, the following actions may potentially result in a violation this rule:

(1) Unauthorized handling, collecting, possessing, selling, delivering, carrying, or transporting of the Suwannee alligator snapping turtle, including interstate transportation across State lines and import or export across international boundaries.

(2) Unreported incidents of dead or injured turtles from bycatch associated with commercial or recreational fishing in accordance with State regulations; or bycatch due to fishing activities not in accordance with State regulations.

(3) Non-release of incidentally hooked or entangled turtles from commercial or recreational fishing gear, considering human safety concerns;

(4) Destruction/alteration of the species' habitat by removing deadhead logs or changing the hydrology of an occupied waterbody not in according to local, State, or Federal regulations or relevant best management practices; and

(5) Discharge of chemicals or fill material into any waters in which Suwannee alligator snapping turtle is known to occur.

Questions regarding whether specific activities would constitute a violation of this rule should be directed to the Panama City Ecological Services Field Office (see **FOR FURTHER INFORMATION CONTACT**).

III. Critical Habitat

Background

Critical habitat is defined in section 3 of the Act as:

(1) The specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the Act, on which are found those physical or biological features

(a) Essential to the conservation of the species, and

(b) Which may require special management considerations or protection; and

(2) Specific areas outside the geographical area occupied by the species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

Our regulations at 50 CFR 424.02 define the geographical area occupied by the species as an area that may generally be delineated around species' occurrences, as determined by the Secretary (i.e., range). Such areas may include those areas used throughout all or part of the species' life cycle, even if not used on a regular basis (e.g.,

migratory corridors, seasonal habitats, and habitats used periodically, but not solely by vagrant individuals).

Conservation, as defined under section 3 of the Act, means to use and the use of all methods and procedures that are necessary to bring an endangered or threatened species to the point at which the measures provided pursuant to the Act are no longer necessary. Such methods and procedures include, but are not limited to, all activities associated with scientific resources management such as research, census, law enforcement, habitat acquisition and maintenance, propagation, live trapping, and transplantation, and, in the extraordinary case where population pressures within a given ecosystem cannot be otherwise relieved, may include regulated taking.

Section 4 of the Act requires that we designate critical habitat on the basis of the best scientific data available. Further, our Policy on Information Standards Under the Endangered Species Act (published in the *Federal Register* on July 1, 1994 (59 FR 34271)), the Information Quality Act (section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001 (Pub. L. 106–554; H.R. 5658)), and our associated Information Quality Guidelines, provide criteria, establish procedures, and provide guidance to ensure that our decisions are based on the best scientific data available. They require our biologists, to the extent consistent with the Act and with the use of the best scientific data available, to use primary and original sources of information as the basis for recommendations to designate critical habitat.

Prudency Determination

Section 4(a)(3) of the Act, as amended, and implementing regulations (50 CFR 424.12), require that, to the maximum extent prudent and determinable, the Secretary shall designate critical habitat at the time the species is determined to be an endangered or threatened species. Our regulations (50 CFR 424.12(a)(1)) state that the Secretary

may, but is not required to, determine that a designation would not be prudent in the following circumstances:

(i) The species is threatened by taking or other human activity and identification of critical habitat can be expected to increase the degree of such threat to the species;

(ii) The present or threatened destruction, modification, or curtailment of a species' habitat or range is not a threat to the species, or threats to the species' habitat stem solely from causes that cannot be addressed through management actions resulting from consultations under section 7(a)(2) of the Act;

(iii) Areas within the jurisdiction of the United States provide no more than negligible conservation value, if any, for a species occurring primarily outside the jurisdiction of the United States;

(iv) No areas meet the definition of critical habitat; or

(v) The Secretary otherwise determines that designation of critical habitat would not be prudent based on the best scientific data available.

Increased Degree of Threat to the Suwannee Alligator Snapping Turtle

After evaluating the status of the species and considering the threats acting on the species, we find the designation of critical habitat would not be prudent for Suwannee alligator snapping turtle because the species is threatened by taking or other human activity, and identification of critical habitat can be expected to increase the degree of such threat to the species. Many species of aquatic turtles, including alligator snapping turtle species, are collected for the pet trade and personal consumption in the United States and internationally.

The Suwannee alligator snapping turtle is declining throughout its range as a consequence of factors including collection of live adult turtles from the wild for human consumption and for the pet trade. Adult alligator snapping turtles are harvested for local human consumption and for use in the specialty meat trade both domestically and

internationally. Prior to 2006, up to 23,780 *M. temminckii* per year were exported from the United States (70 FR 74700, December 16, 2005). Harvest and trade of mature, breeding adults can rapidly become unsustainable because of the species' life history and reproductive strategy. When recreational and commercial harvest were both allowed for Suwannee alligator snapping turtles, the over-exploitation over several decades severely depleted many local subpopulations and altered the demographic structure (70 FR 74701, December 16, 2005).

Designation of critical habitat requires the publication of maps and a narrative description of specific critical habitat areas in the *Federal Register*. We are concerned that designation of critical habitat would more widely announce the exact locations of Suwannee alligator snapping turtles and their highly suitable habitat that may facilitate poaching and contribute to further declines of the species' viability. Moreover, as species become rarer and more difficult to obtain, the monetary value increases, thus driving increased collection pressure on remaining wild individuals. We anticipate that listing Suwannee alligator snapping turtle under the Act may promote further interest in black market sales of the turtles and increase the likelihood that Suwannee alligator snapping turtles will be sought out for turtle meat consumption and also for the pet trade as demand rises. The removal of the species by taking is expected to increase if we identify critical habitat; thus, we find that designation of critical habitat for Suwannee alligator snapping turtle is not prudent.

Required Determinations

Clarity of the Rule

We are required by Executive Orders 12866 and 12988 and by the Presidential Memorandum of June 1, 1998, to write all rules in plain language. This means that each rule we publish must:

(1) Be logically organized;

(2) Use the active voice to address readers directly;

(3) Use clear language rather than jargon;

(4) Be divided into short sections and sentences; and

(5) Use lists and tables wherever possible.

If you feel that we have not met these requirements, send us comments by one of the methods listed in **ADDRESSES**. To better help us revise the rule, your comments should be as specific as possible. For example, you should tell us the numbers of the sections or paragraphs that are unclearly written, which sections or sentences are too long, the sections where you feel lists or tables would be useful, etc.

National Environmental Policy Act (42 U.S.C. 4321 et seq.)

We have determined that environmental assessments and environmental impact statements, as defined under the authority of the National Environmental Policy Act (NEPA; 42 U.S.C. 4321 *et seq.*), need not be prepared in connection with listing a species as an endangered or threatened species under the Endangered Species Act. We published a notice outlining our reasons for this determination in the *Federal Register* on October 25, 1983 (48 FR 49244).

Government-to-Government Relationship with Tribes

In accordance with the President's memorandum of April 29, 1994 (Government-to-Government Relations with Native American Tribal Governments; 59 FR 22951), Executive Order 13175 (Consultation and Coordination with Indian Tribal Governments), and the Department of the Interior's manual at 512 DM 2, we readily acknowledge our responsibility to communicate meaningfully with recognized Federal Tribes on a government-to-government basis. In accordance with Secretarial Order 3206 of June 5, 1997 (American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act), we readily acknowledge our responsibilities to work directly with Tribes in developing programs for healthy ecosystems, to acknowledge that Tribal

lands are not subject to the same controls as Federal public lands, to remain sensitive to Indian culture, and to make information available to Tribes.

Upon the initiation of the SSA process, we contacted Tribes within the range of Suwannee alligator snapping turtle and additional Tribes of interest to inform them of our intent to complete an SSA for the species that would inform the species' 12-month finding. In addition, as described above under *Tribal employees,* the proposed rule would authorize certain take by Tribes. As we move forward with this listing process, we will continue to consult with Tribes on a government-to-government basis as necessary.

References Cited

A complete list of references cited in this rulemaking is available on the Internet at *http://www.regulations.gov* in Docket No. FWS–R4–ES–2021–0007 and upon request from the Panama City Ecological Services Field Office (see **FOR FURTHER INFORMATION CONTACT**).

Authors

The primary authors of this proposed rule are the staff members of the Service's Species Assessment Team and the Panama City Ecological Services Field Office.

List of Subjects in 50 CFR Part 17

Endangered and threatened species, Exports, Imports, Reporting and recordkeeping requirements, Transportation.

Proposed Regulation Promulgation

Accordingly, we propose to amend part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations, as set forth below:

PART 17—ENDANGERED AND THREATENED WILDLIFE AND PLANTS

1. The authority citation for part 17 continues to read as follows:

Authority: 16 U.S.C. 1361–1407; 1531–1544; and 4201–4245, unless otherwise noted.

2. In § 17.11(h), add an entry for "Turtle, Suwannee alligator snapping" to the List of Endangered and Threatened Wildlife in alphabetical order under REPTILES to read as set forth below:

§ 17.11 Endangered and threatened wildlife.

* * * * *

(h) * * *

Common name	Scientific name	Where Listed	Status	Listing Citations and Applicable Rules
* * * * * * *				
REPTILES				
* * * * * * *				
Turtle, Suwannee alligator snapping	*Macrochelys suwanniensis*	Wherever found	T	[*FEDERAL REGISTER* CITATION OF THE FINAL RULE]; 50 CFR 17.42(k).[4d]
* * * * * * *				

3. Amend § 17.42 by adding paragraph (k) to read as set forth below:

§ 17.42 Special rules—reptiles.

* * * * *

(k) Suwannee alligator snapping turtle (*Macrochelys suwanniensis*)--(1) *Prohibitions.* The following prohibitions that apply to endangered wildlife also apply to Suwannee alligator snapping turtle. Except as provided under paragraph (k)(2) of this section and §§ 17.4 and 17.5, it is unlawful for any person subject to the jurisdiction of the United States to commit, to attempt to commit, to solicit another to commit, or cause to be committed, any of the following acts in regard to this species:

(i) Import or export, as set forth at § 17.21(b) for endangered wildlife.

(ii) Take, as set forth at § 17.21(c)(1) for endangered wildlife.

(iii) Possession and other acts with unlawfully taken specimens, as set forth at § 17.21(d)(1) for endangered wildlife.

(iv) Interstate or foreign commerce in the course of commercial activity, as set forth at § 17.21(e) for endangered wildlife.

(v) Sale or offer for sale, as set forth at § 17.21(f) for endangered wildlife.

(2) *Exceptions from prohibitions.* In regard to this species, you may:

(i) Conduct activities as authorized by a permit under § 17.32.

(ii) Take, as set forth at § 17.21(c)(2) through (4) for endangered wildlife.

(iii) Take as set forth at § 17.31(b).

(iv) Possess and engage in other acts with unlawfully taken wildlife, as set forth at § 17.21(d)(2) for endangered wildlife.

(v) Take incidental to an otherwise lawful activity caused by:

(A) Federal and State captive-breeding programs to support conservation efforts for wild populations that use permitted brood stock and approved turtle husbandry practices in accordance with State regulations and U.S. Fish and Wildlife Service policy.

(B) Construction, operation, and maintenance activities that occur near- and in-stream, such as installation of stream crossings, replacement of existing in-stream structures (e.g., bridges, culverts, water control structures, boat launches, etc.), operation and maintenance of existing flood control features (or other existing structures), and directional boring, when implemented with industry and/or State-approved best management practices for construction.

(C) Pesticide and herbicide application that follow the chemical label and appropriate application rates.

(D) Silviculture practices and forest management activities that use State-approved best management practices to protect water and sediment quality and stream and riparian habitat.

(E) Maintenance dredging activities that remain in the previously disturbed portion of the maintained channel.

(vi) When acting in the course of their official duties, Tribal employees designated by the Tribe for such purposes may take Suwannee alligator snapping turtle for the following purposes:

(A) Aiding or euthanizing sick or injured Suwannee alligator snapping turtles;

(B) Disposing of a dead specimen; and

(C) Salvaging a dead specimen that may be used for scientific study. Such take must be reported to the local Service field office within 72 hours, and specimens may be disposed of only in accordance with directions from the Service.

(vii) State-licensed wildlife rehabilitation facilities, when acting in the course of their official duties, may take Suwannee alligator snapping turtle for the purpose of aiding or euthanizing sick or injured Suwannee alligator snapping turtles. Such take must be reported to the local Service field office within 72 hours and specimens may be retained and disposed of only in accordance with directions from the Service.

Martha Williams
Principal Deputy Director,
Exercising the Delegated Authority of the Director,
U.S. Fish and Wildlife Service.

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